

## WILDLAND FIRE SITUATION ANALYSIS

Wildland Fire Situation Analysis (WFSA) is a decision-making process in which the Agency Administrator or representative describes the situation, establishes objectives and constraints for the management of the fire, compares multiple strategic wildland fire management alternatives, evaluates the expected effects of the alternatives, selects the preferred alternative, and documents the decision. The format and level of detail required is dependent on the specific incident and its complexity. The key is to document the decision.

### WFSA INITIATION

FIRE NAME

JURISDICTION(S)

DATE AND TIME INITIATED


### VI. DECISION

The selected alternative is:

RATIONALE:

AGENCY ADMINISTRATOR SIGNATURE

\_\_\_\_\_

DATE/TIME

\_\_\_\_\_

### I. WILDLAND FIRE SITUATION ANALYSIS

A. JURISDICTION(S):	B. GEOGRAPHIC AREA:
C. UNIT(S):	D. WFSA #:
E. FIRE NAME:	F. INCIDENT #:
G. ACCOUNTING CODE:	
H. DATE/TIME PREPARED:	
I. ATTACHMENTS: <div style="margin-left: 100px;"> <input type="checkbox"/> COMPLEXITY MATRIX/ANALYSIS<sup>1</sup>  <input type="checkbox"/> RISK ASSESSMENT<sup>1</sup>  <input type="checkbox"/> PROBABILITY OF SUCCESS<sup>1</sup>  <input type="checkbox"/> CONSEQUENCES OF FAILURE<sup>1</sup>  <input type="checkbox"/> MAPS<sup>1</sup>  <input type="checkbox"/> DECISION TREE<sup>2</sup>  <input type="checkbox"/> FIRE BEHAVIOR PROJECTIONS<sup>1</sup>  <input type="checkbox"/> CALCULATIONS OF RESOURCE REQUIREMENTS<sup>1</sup>  <input type="checkbox"/> OTHER (SPECIFY) </div> <div style="margin-top: 20px;"> <sup>1</sup> Required  <sup>2</sup> Required by the USFS </div>	

## Section II. Objectives and Constraints

*The Agency Administrator completes this page.*

- II.A. Objectives: Specify criteria that should be considered in the development of alternatives.

Safety objectives for firefighters, aviation, and public must receive the highest priority, Suppression objectives must relate to resource management objectives in the unit resource management plan.

Economic objectives could include closure of all portions of an area, thus impacting the public, or impacts to transportation, communication and resource values.

Environmental objectives could include management objectives for airshed, water quality, wildlife, etc.

Social objectives could include any local attitudes toward fire or smoke that might affect decisions on the fire, safety, etc.

Other objectives might include legal or administrative constraints which would have to be considered in the analysis of the fire situation, such as the need to keep the fire off other agency lands, etc.

- II.B. Constraints: List constraints on wildland fire action. These could include constraints to designated wilderness, wilderness study areas, environmentally or culturally sensitive areas, irreparable damage to resources or smoke management/air quality concerns. Economic constraints such as public and Agency cost could be considered here.

## II. OBJECTIVES AND CONSTRAINTS

### A. OBJECTIVES (must be specific and measurable):

1. *SAFETY:*  
*Public*

*Firefighter*

2. *ECONOMIC:*

3. *ENVIRONMENTAL:*

4. *SOCIAL:*

5. *OTHER:*

### B. CONSTRAINTS:

## Section III. Alternatives

The FIRE MANAGER/and or INCIDENT COMMANDER complete(s) this page.

- III.A. Wildland Fire Management Strategy: Briefly describe the general wildland fire strategies for each alternative. Alternatives must meet resource management plan objectives.
- III.B. Narrative: Briefly describe each alternative with geographic names, locations, etc., that would be used when implementing a wildland fire strategy. For example, "Contain within the Starvation Meadows' watershed by the first burning period".
- III.C. Resources Needed: Resources listed must be reasonable to accomplish the tasks described in Section III.B. It is critical to also look at the reality of the availability of these needed resources.
- III.D. Estimated Final Fire Size: Estimated final size for each alternative at time of containment.
- III.E. Estimated Contain/Control Date: Estimates for each alternative shall be made based on predicted weather, fire behavior, resource availability and the effects of wildland fire management efforts.
- III.F. Cost: Estimate all fire costs for each alternative. Consider mopup, rehabilitation, and other costs as necessary.
- III.G. Risk Assessment: Probability of success/Consequences of failure: Describe probability as a % and associated consequences for success and failure. Develop this information from models, practical experience or other acceptable means. Consequences described will include fire size, days to contain, days to control, costs and other information such as park closures and effect on critical habitat. Include fire behavior and long-term fire weather forecasts to derive this information.
- III.H. Complexity: Assign the complexity rating calculated in the Guide for Assessing Fire Complexity.
- III.I. Maps: A map for each alternative must be prepared. The map shall be based on the "Probability of success/Consequences of Failure" and include other relative information.

III. ALTERNATIVES			
	A	B	C
A. WILDLAND FIRE STRATEGY:			
B. NARRATIVE:			
C. RESOURCES NEEDED:			
HANDCREWS			
ENGINES			
DOZERS			
AIRTANKERS			
HELICOPTERS			
D. ESTIMATED FINAL FIRE SIZE:			
E. ESTIMATED CONTAIN/ CONTROL DATE			
F. COSTS:			
G. RISK ASSESSMENT: PROBABILITY OF SUCCESS/  CONSEQUENCES OF FAILURE			
H. COMPLEXITY:			
I. ATTACH MAPS FOR EACH ALTERNATIVE			

## Section IV. Evaluation of Alternatives

The Agency Administrator(s), FMO and/or Incident Commander(s) completes this page.

IV.A. Evaluation Process: Conduct an analysis for each element of each objective and each alternative. Objective shall match those identified in section II.A. Use the best estimates available and quantify whenever possible. Provide ratings for each alternative and corresponding objective element. Fire effects may be negative, cause no change or may be positive. Examples are: 1) a system which employs a "-" for negative effect, a "0" for no change, and a "+" for positive effect; 2) a system which uses a numeric factor for importance of the consideration (soils, watershed, political, etc.) and assigns values (such as -1 to +1, -100 to +100, etc.) to each consideration, then arrives at a weighted average. If you have the ability to estimate dollar amounts for natural resource and cultural values this data is preferred. Use those methods which are most useful to managers and most appropriate for the situation and agency. To be able to evaluate positive fire effects, the area must be included in the resource management plan and be consistent with prescriptions and objectives of the Fire Management Plan.

Sum Of Economic Values: Calculate for each element the net effect of the rating system used for each alternative. This could include the balance of: pluses (+) and minuses (-), numerical rating (-3 and +3), or natural and cultural resource values in dollar amounts. (Again resource benefits may be used as part of the analysis process when the wildland fire is within a prescription consistent with approved Fire Management Plans and in support of the unit's Resource Management Plan.)

IV. EVALUATION OF ALTERNATIVES			
A. EVALUATION PROCESS	A	B	C
<i>SAFETY</i> Firefighter Aviation Public			
Sum of Safety Values			
<i>ECONOMIC</i> Forage Improvements Recreation Timber Water Wilderness Wildlife Other (specify)			
Sum of Economic Values			
<i>ENVIRONMENTAL</i> Air Visual Fuels T & E Species Other (specify)			
Sum of Environmental Values			
<i>SOCIAL</i> Employment Public Concern Cultural Other (Specify)			
Sum of Social Values			

## Section V. Analysis Summary

The Agency Administrator(s), FMO and/or Incident Commander(s) complete this page.

- V.A. Compliance with Objectives: Prepare narratives that summarize each alternative's effectiveness in meeting each objective. Alternatives that do not comply with objectives are not acceptable. Narratives could be based on effectiveness and efficiency. For example: "most effective and least efficient", "least effective and most efficient", "or "effective and efficient". Or answers could be based on a two-tiered rating system such as "complies with objective" and "fully complies with or exceeds objective". Use a system that best fits the manager's needs.
- V.B. Pertinent Data: Data for this section has already been presented and is duplicated here to help the Agency Administrator(s) confirm their selection of an alternative. Final Fire Size is displayed on page three, section III.D. Complexity is calculated in the attachments and displayed on page three, section III.H. Costs are displayed on page three, section III.F. Economic Values have been calculated and displayed on page four. Probability of Success/Consequences of Failure are calculated in the attachments and displayed on page three, section III.G.
- V.C. External and Internal Influences: Assign information and data occurring at the time the WFSA is signed. Identify the Preparedness Index (1 through 5) for the National and Geographic levels. If available, indicate the Incident Priority assigned by the MAC group. Designate the Resource Availability status. This information is available at the Geographic Coordination Center and needed to select a viable alternative. Designate "yes" indicating an up-to-date weather forecast has been provided to, and used by, the Agency Administrator(s) to evaluate each alternative. Assign information to the "other" category as needed by the Agency Administrator(s).

## Section VI. Decision

Identify the alternative selected. Must have clear and concise rationale for the decision, and a signature with date and time. Agency Administrator(s) signature is mandatory.

V. ANALYSIS SUMMARY			
ALTERNATIVES	A	B	C
<b>A. COMPLIANCE WITH OBJECTIVES:</b>  <i>SAFETY</i> <i>ECONOMIC</i> <i>ENVIRONMENTAL</i> <i>SOCIAL</i> <i>OTHER</i>			
<b>B. PERTINENT DATA:</b> <i>FINAL FIRE SIZE</i> <i>COMPLEXITY</i> <i>COST</i> <i>RESOURCE VALUES</i> <i>PROBABILITY of SUCCESS</i> <i>CONSEQUENCES of FAILURE</i>			
<b>C. EXTERNAL/INTERNAL INFLUENCES:</b>  <i>NATIONAL AND GEOGRAPHIC PREPAREDNESS LEVEL</i> _____ <i>INCIDENT PRIORITY</i> _____ <i>RESOURCE AVAILABILITY</i> _____ <i>WEATHER FORECAST (LONG-RANGE)</i> _____ <i>FIRE BEHAVIOR PROJECTIONS</i> _____			

## Section VII. Daily Review

The Agency Administrator(s), or designate complete(s) this page.

The date, time and signature of reviewing officials are reported in each column for each day of the Incident. The status of Preparedness Level, Incident Priority, Resource Availability, Weather Forecast, and WFSA Validity is completed for each day reviewed. Ratings for the Preparedness Level, Incident Priority, Resource Availability, Fire Behavior, and Weather Forecast are addressed on page five, section V.C. Assign a "yes" under "WFSA Valid" to continue use of this WFSA. A "no" indicates this WFSA is no longer valid and another WFSA must be prepared or the original revised.

## VII. DAILY REVIEW

<p>SELECTED ALTERNATIVE TO BE REVIEWED DAILY TO DETERMINE IF STILL VALID UNTIL CONTAINMENT OR CONTROL</p>
---

[illegible]

IF WFSA IS NO LONGER VALID, A NEW WFSA WILL BE COMPLETED

## WFSA COMPLETION/FINAL REVIEW

THE SELECTED ALTERNATIVE ACHIEVED  
DESIRED OBJECTIVES ON (DATE/TIME):

THE SELECTED ALTERNATIVE DID NOT  
ACHIEVE THE DESIRED OBJECTIVES AND A  
NEW WFSA WAS PREPARED ON (DATE/TIME):

AGENCY ADMINISTRATOR OR  
REPRESENTATIVE SIGNATURE:


# A GUIDE FOR ASSESSING FIRE COMPLEXITY

The following questions are presented as a guide to assist the Agency Administrator and staff in analyzing the complexity or predicted complexity of a fire situation. Because of the time required to assemble or move an Incident Management Team to a fire, this checklist should be completed when a fire escapes initial attack and be kept as part of the fire records. This document is prepared concurrently with the preparation of and attached to a new or revised Wildland Fire Situation Analysis. It must be emphasized that this analysis should, where possible, be based on predications to allow adequate time for assembling and transporting the ordered resources.

## Use of the Guide:

1. Analyze each element and check the response yes or no.
2. If positive responses exceed, or are equal to, negative responses within any primary factor (A through G), the primary factor should be considered as a positive response.
3. If any three of the primary factors (A through G) are positive response, this indicates the fire situation is or is predicted to be Type I.
4. Factor H should be considered after all above steps. If more than two of these items there are fewer than three positive responses in the primary factors (A-G) a Type II team should be considered. If the answers to all questions in H are negative, it may be advisable to allow the existing overhead to continue action on the Fire.

## GLOSSARY OF TERMS

Potential for blow-up conditions - **Any combination of fuels, weather and topography excessively endangering personnel.**

Threatened and endangered species - **Threat to habitat of such species, or in the case of flora, threat to the species itself.**

Smoke Management - **Any situation which creates a significant public response, such as smoke in a metropolitan area or visual pollution in high-use scenic areas.**

Extended exposure to unusually hazardous line conditions - **Extended burnout or backfire situations, rock slides, cliffs extremely steep terrain, abnormal**

**fuel situations such as frost killed foliage, etc.**

Disputed Fire Management responsibility - **Any wildland fire where responsibility for management is not agreed upon due to lack of agreements or different interpretations, etc.**

Disputed fire policy - **Differing fire policies between suppression agencies when the fire involves multiple ownership is an example.**

Pre-existing controversies - **These may or may not be fire management related. Any controversy drawing public attention to an area may present unusual problems to the fire overhead and local management.**

Have overhead overextended themselves mentally or physically - **This is a critical item that requires judgment by the responsible agency. It is difficult to write guidelines for this judgment because of the wide differences between individuals. If, however, the Agency Administrator feels the existing overhead cannot continue to function efficiently and take safe and aggressive action due to mental or physical reasons, assistance is mandatory.**

# FIRE COMPLEXITY ANALYSIS

A. FIRE BEHAVIOR: Observed or Predicted	Yes/No
1. Burning Index (from on-site measurement of weather conditions). Predicted to be above the 90% level using the major fuel model in which the fire is burning.	___ ___
2. Potential exists for "blowup" conditions (fuel moisture, winds, etc).	___ ___
3. Crowning, profuse or long-range spotting.	___ ___
4. Weather forecast indicating no significant relief or worsening conditions.	___ ___
Total . . . . .	___ ___
B. RESOURCES COMMITTED:	
1. 200 or more personnel assigned.	___ ___
2. Three or more divisions.	___ ___
3. Wide variety of special support personnel.	___ ___
4. Substantial air operation which is not properly staffed.	___ ___
5. Majority of initial attack resources committed.	___ ___
Total . . . . .	___ ___
C. RESOURCES THREATENED:	
1. Urban interface.	___ ___
2. Developments and facilities.	___ ___
3. Restricted, threatened or endangered species habitat.	___ ___
4. Cultural sites.	___ ___
5. Unique natural resources, special designation zones or wilderness.	___ ___
6. Other special resources.	___ ___
Total . . . . .	___ ___
D. SAFETY:	
1. Unusually hazardous fire line conditions.	___ ___
2. Serious accidents or fatalities.	___ ___
3. Threat to safety of visitors from fire and related operations.	___ ___
4. Restrictions and/or closures in effect or being considered.	___ ___
5. No night operations in place for safety reasons.	___ ___
Total . . . . .	___ ___

E. OWNERSHIP:		Yes/No
1. Fire burning or threatening more than one jurisdiction.		___ ___
2. Potential for claims (damages).		___ ___
3. Different or conflicting management objectives.		___ ___
4. Dispute over fire management responsibility.		___ ___
5. Potential for unified command.		___ ___
Total . . . . .		___ ___
F. EXTERNAL INFLUENCES:		
1. Controversial wildland fire management policy.		___ ___
2. Pre-existing controversies/relationships.		___ ___
3. Sensitive media relationships.		___ ___
4. Smoke management problems.		___ ___
5. Sensitive political interests.		___ ___
6. Other external influences.		___ ___
Total . . . . .		___ ___
G. CHANGE IN STRATEGY		
1. Change in strategy (from lower to higher intensity management).		___ ___
2. Large amounts of unburned fuel within planned perimeter.		___ ___
3. WFSA invalid or requires updating.		___ ___
Total . . . . .		___ ___
H. EXISTING OVERHEAD:		
1. Worked two operational periods without achieving initial objectives.		___ ___
2. Existing management organization ineffective.		___ ___
3. Overhead/IMT overextended mentally and/or physically.		___ ___
4. Incident actions plans, briefings, etc., missing or poorly prepared.		___ ___
Total . . . . .		___ ___

Signature	
Date	Time

# WFSA INSTRUCTIONS

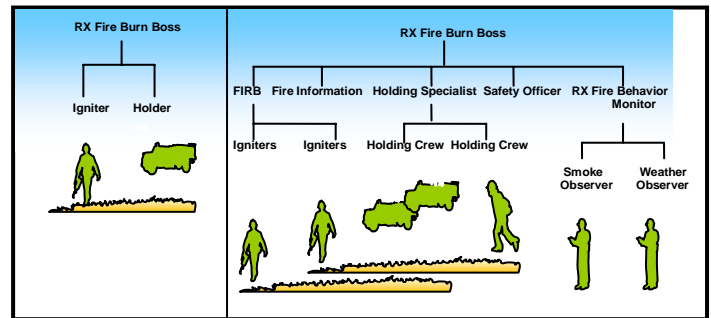
## Section I. WFSA Information Page

*The Agency Administrator completes this page.*

- I.A. Jurisdiction(s): Assign the agency that have or could have fire protection responsibility, e.g., USFWS, Forest Service, BLM, etc.
- I.B. Geographic Area: Assign the recognized "Geographic Coordination Area" in which the fire is located, e.g., Northwest, Northern Rockies, etc.
- I.C. Unit: Designate the local administrative unit, e.g., Hart Mountain Refuge Area, Flathead Indian Reservation, etc.
- I.D. WFSA #: Identify the number assigned to the most recent WFSA for this fire.
- I.E. Fire Name: Self-explanatory.
- I.F. Incident Number: Identify the agency number assigned to the fire, e.g., BOD 296, BNF 001.
- I.G. Accounting Code: Insert the local unit's accounting code.
- I.H. Date/Time Prepared: Self-explanatory.
- I.I. Attachments: Check here to designate attachments used in the completion of the WFSA. "Other" could include data or models used in the development of the WFSA. Briefly describe the "other" items used.

# Interagency Prescribed Fire

## Planning and Implementation Procedures Reference Guide



**PRESCRIBED FIRE PLAN**

ADMINISTRATIVE CHECKS: \_\_\_\_\_

PRESCRIBED FIRE NAME: \_\_\_\_\_

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
*Name & Qualifications*

TECHNICAL REVIEW BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
*Name & Qualifications*

COMPLEXITY RATING: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
*Agency Administrator*



September 2006

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## Foreword

***"Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide"*** (2006 Guide) provides standardized procedures, specifically associated with the planning and implementation of prescribed fire. These procedures meet all policy requirements described in the 2003 ***Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy***. The 2006 guide provides unified direction and guidance for prescribed fire planning and implementation for the Department of the Interior's Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), the National Park Service (NPS), the United States Fish and Wildlife Service (USFWS)

and the United States Department of Agriculture Forest Service (USDA FS).

Prior to implementing Prescribed Fire under the standards in the 2006 Guide, local units must have ensured compliance with National Environmental Policy Act (NEPA), National Historical Preservation Act (NHPA) and Endangered Species Act (ESA) requirements.

This Implementation Procedures Reference Guide (2006 Guide) meets requirements of National Fire and Aviation Executive Board (NFAEB) task to develop common language and unified direction or guidance for agency/bureau manuals, directive handbooks, and guidelines to complete final implementation of this policy.

  
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Chief

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## Executive Summary

Fire is an essential ecological process in many fire dependent ecosystems. In large areas of the country, fire exclusion from these ecosystems has led to unhealthy forest, woodland and rangeland conditions. These areas are at risk of intense, severe wildfires that threaten communities and cause significant damage to key ecological components.

As one component of fire management, prescribed fire is used to alter, maintain, or restore vegetative communities; achieve desired resource conditions; and to protect life, property, and values that would be degraded and/or destroyed by wildfire.

Federal Prescribed Fire Programs are guided by the principles of the 1995 Federal Wildland Fire Management Policy and Program Review and the 2001 update. Collectively these principles establish that wildfire suppression, wildland fire use, and prescribed fire programs be implemented equally, consistently and concurrently, as a means to avoid fire risks. The policy emphasizes firefighter safety as a consideration in planning and a priority in operations (Wildland Fire Management Policy, June, 2003).

This guide supports the Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy. It provides unified direction and guidance for prescribed fire planning and implementation for the Department of the Interior's Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), the National Park Service (NPS), the United States Fish and Wildlife Service (USFWS) and the United States Department of Agriculture Forest Service (USDA FS).

This guide partially replaces the original Wildland and Prescribed Fire Management Policy Implementation Procedures and Reference Guide (USDI/ USDA 1998)<sup>1</sup> which established consistent agreement between agencies regarding federal policy direction related to prescribed fire planning and implementation.

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<sup>1</sup> Other documents that replace this 1998 document are the *Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy*, June 20, 2003 and *Wildland Fire Use Implementation Procedures Reference Guide*, May 2005

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# Introduction

## Purpose

The purpose of this guide is to provide consistent interagency policy, establish common terms and definitions and identify planning and implementation processes for prescribed fire.

The guide describes what is **minimally** acceptable for prescribed fire planning and implementation. Agencies may choose to provide more restrictive standards and policy direction, but must adhere to these **minimums**.

## Scope

This guide provides policy and direction to implement existing federal policy and has been developed with tribal, state, county, and local cooperators in mind. While some of these guidelines will not fit all non-federal cooperators, the intent is to include everyone by establishing a planning and implementation guide that might result in that outcome.

## Prescribed Fire Program Goals

Interagency Prescribed Fire Program goals are to:

- Provide for firefighter and public safety as the first priority.
- Ensure that risk management is incorporated into all prescribed fire planning and implementation.
- Use prescribed fire in a safe, carefully planned, and cost-efficient manner.
- Reduce wildfire risk to communities, municipal watersheds and other values and to benefit, protect, maintain, sustain, and enhance natural and cultural resources.
- Utilize prescribed fire to restore natural ecological processes and functions, and to achieve land management objectives.

## Authorities

All use of prescribed fire will be supported by a Land/Resource Management Plan (L/RMP) and/or Fire Management Plans (FMP). Prescribed fire projects can only be implemented through an approved Prescribed Fire Plan. Specific authorities exist for each agency to utilize prescribed fire (See Appendix A). All

project decisions to use prescribed fire are subject to the agency's analysis, documentation, and disclosure requirements for complying with the National Environmental Policy Act (NEPA).

During prescribed fire planning and operations, all federal agencies will accept each other's standards for qualifications. The minimum qualifications standard is National Wildland Fire Coordinating Group (NWCG) Wildland and Prescribed Fire Qualifications System Guide, 2000 (PMS 310-1). State, local cooperators and contractors working on federal agency prescribed fires must meet the NWCG PMS 310-1 standards unless local agreements specify otherwise.

The main reference glossary for this guide is the NWCG glossary, which is updated periodically: <http://www.nwcg.gov/>.

This guide is not intended to address interagency business rules. Reference individual agency's business rules for direction.

## Prescribed Fire Planning Process

Common planning documents to ensure quality prescribed fire plans include:

### Land/Resource Management Plan (L/RMP)

Overall direction is provided to the Wildland Fire Management Program by Land/Resource Management Plans (L/RMP). These plans serve as the document to initiate, analyze, and provide the basis for using prescribed fire to meet resource management objectives.

### Fire Management Plan (FMP)

All burnable acres will be covered by a Fire Management Plan (FMP). The FMP is the cornerstone plan for managing a Wildland Fire Management Program and should flow directly from the L/RMP. FMPs may be developed for a Fire Planning Unit (FPU) that crosses jurisdictional boundaries. Where the Wildland Fire Management Program crosses jurisdictional boundaries, or where

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program coordination is essential, the FMP will require interagency coordination. Most FMPs are anticipated to fall into this category.

**National Environmental Policy Act (NEPA)**

Resource and prescribed fire objectives for specific prescribed fire projects are derived from the NEPA analysis. **The entire prescribed fire project area must be analyzed under NEPA.** NEPA documents that identify and analyze the effects of using or not using prescribed fire treatment projects may include

Environmental Impact Statements (EIS), Environmental Assessments (EA), and Categorical Exclusion (CE).

Other authorities that may be utilized to guide analysis and determination of NEPA compliance are Healthy Forest Restoration Act (HFRA), Healthy Forest Initiative (HFI), and the Tribal Forest Protection Act (TFPA).

Prescribed fire planning and related NEPA analysis should always occur at the largest possible spatial and temporal scales.

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## Implementation Organization and Qualifications

During prescribed fire planning and operations, all federal agencies will accept each other's standards for qualifications. The minimum qualifications standard is National Wildland Fire Coordinating Group (NWCG) Wildland and Prescribed Fire Qualifications System Guide, 2000 (PMS 310-1). State, local cooperators and contractors working on federal agency prescribed fires must meet the NWCG PMS 310-1 standards unless local agreements specify

otherwise. No less than the organization described in the approved Prescribed Fire Plan may be used for implementation. The complexity of each prescribed fire or phase of fire(s) determines the organization(s) needed to safely achieve the objectives specified in the Prescribed Fire Plan.

Minimum Supervisory Qualifications determined by prescribed fire complexity:

**Table 1. Qualifications requirements related to Prescribed Fire Complexity.**

Position	Complexity		
	High	Moderate-Low	Low
<b>RXM1</b>	Optional	Optional	Optional
<b>RXM2</b>	Not Allowed	Optional	Optional
<b>RXB1</b>	Required	Optional	Optional
<b>RXB2</b>	Not Allowed	Required	Optional
<b>RXB3</b>	Not Allowed	Not Allowed	Required
<b>FIRB</b>	Optional	Optional	Optional
<b>Holding Specialist:</b> Holding functions will be managed by personnel qualified at the appropriate ICS wildland fire operations position as required by complexity, assigned resources and operational span of control. For some projects, there may be no holding requirements or the holding duties are assumed by the Burn Boss.			

High, Moderate, and Low complexity prescribed fires are determined through the required NWCG Prescribed Fire Complexity Rating System Guide.

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### **Prescribed Fire Burn Boss Type 3 (RXB3):**

Adoption of the RXB3 position is up to each agency. Non-federal RXB3s must meet the qualifications as listed in the table below unless local agreements specify otherwise.

An RXB3 will only be allowed to implement low complexity prescribed fires where the possibility of spread or spotting outside the project area is negligible to non-existent; multiple fuel models are not involved and aerial operations are not involved;.

The requirements for Prescribed Fire Burn Boss Type 3 are:

**Table 2. Requirements for Prescribed Fire Burn Boss Type 3**

<b>Training:</b>	Required: S-290 Intermediate Wildland Fire Behavior Suggested: S-234 Ignition Operations
<b>Prerequisite Experience:</b>	Incident Commander, Type 5 <b>OR</b> Advanced Firefighter/Squad Boss <b>AND</b> Satisfactory position performance as a Prescribed Fire Burn Boss Type 3
<b>Physical Fitness:</b>	Moderate
<b>Other Position Assignments that will Maintain Currency:</b>	Prescribed Fire Burn Boss Type 2 Prescribed Fire Burn Boss Type 1 Fire Use Manager Prescribed Fire Manager Type 1 Prescribed Fire Manager Type 2

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## Responsibilities

Prior to prescribed fire implementation, thorough planning and review processes must be conducted. All prescribed fire actions must be developed from resource/fire management objectives carried forward from FMP's and L/RMP's. A specific implementation plan for each prescribed fire must be completed, reviewed, and approved before ignition can begin.

The Agency Administrator has final approval authority for all Prescribed Fire Plans, unless special circumstances warrant higher review and concurrence (such as may occur during higher Preparedness Levels or for extremely large, complex projects). Although the Agency Administrator has final approval authority for the Prescribed Fire Plan and the Agency Administrator Pre-Ignition Approval checklist, the Prescribed Fire Burn Boss has the responsibility to make the on-site tactical "GO/NO-GO" decision. The Prescribed Fire Burn Boss ensures that all prescription, staffing, equipment, and other plan specifications are met before, during, and after the prescribed fire.

Every Prescribed Fire Plan must receive a technical review. The Technical Reviewer and Prescribed Fire Plan Preparer must be qualified or have been previously qualified as a Prescribed Fire Burn Boss at an experience level equal to or higher than the complexity being reviewed. **Either the Prescribed Fire Plan Preparer or Technical Reviewer must be currently qualified.**

Only a RXB1 can review plans at high complexity. An RXB2 can review plans of moderate to low complexity. An RXB3 is not allowed to function as a Prescribed Fire Plan Preparer (see Chapter 3, section C.) or Technical Reviewer.

Agency or individual unit policy may dictate additional reviews. Interagency Prescribed Fire Plans require approval from all appropriate Agency Administrators and a technical review. Listed below are the prescribed fire and implementation position roles and responsibilities:

### Agency Administrator

For the purposes of this document, the Agency Administrator is defined as the Line Officer (or designee) of the agency or jurisdiction that has responsibility for the prescribed fire. These usually include the: NPS Park Superintendent, BIA Agency Superintendent, USFS Forest Supervisor, BLM District/Field Office Manager, FWS Project Leader, State Forest Officer, and/or Fire Chief.

The Agency Administrator is responsible to:

1. Approve Prescribed Fire Plans. When approving a plan, understand the risks associated with it. Ensure that the plan has been reviewed and recommended for approval by the Technical Reviewer who was not the primary preparer of the plan.
2. Ensure that only trained and qualified personnel participate in the implementation portion of the prescribed fire.
3. Ensure that projects are monitored, evaluated, and documented in the project file.
4. Sign, date, and provide an expiration date for the approval to burn on the Agency Administrator Pre-Ignition Approval Checklist (Reference Burn Plan Template, Appendix B).
5. Understand and approve the Complexity Analysis (PMS 424 January 2004).
6. Ensure that all prescribed fires are conducted in accordance with the approved implementation plan and established standards and guidelines.
7. Ensure that periodic reviews and inspections of the Prescribed Fire Program are completed.
8. Determine if and when the Agency Administrator is to be notified that contingency actions are being taken.
9. Report all wildfires resulting from prescribed fires through the chain of command.

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10. Declare an escaped prescribed fire a wildfire (if responsibility is assigned in the plan).
  11. Ensure that escaped prescribed fires are reviewed according to established guidelines.

## Technical Reviewer

The Technical Reviewer is responsible for reviewing each Prescribed Fire Plan element for content as well as evaluating the risk and Complexity Analysis to ensure that the stated goals and objectives can be safely and successfully achieved when properly implemented. The Technical Reviewer shall be qualified or previously qualified as a Burn Boss at or above the level of project complexity. At a minimum, NWCG qualifications will be accepted. The Technical Reviewer should have local knowledge of the area, experience burning in similar fuel types, and/or conduct an on-site review. **The Technical Reviewer must be someone other than the primary preparer of the plan.** An off-unit technical review is encouraged to provide an additional independent perspective. It is acceptable for other specialists to review certain portions of the plan however; a primary Technical Reviewer must be designated as technical review signatory. For example, a fire behavior analyst may review the fire behavior calculations; the aviation manager may review the air operations plan; and/or a resource specialist may review impacts to their resource of interests. It is recommended that at least once every year, each unit should send a moderate or high complexity Prescribed Fire Plan off-unit for technical review.

The Technical Reviewer is responsible to:

1. Ensure that Prescribed Fire Plans meet agency policy and direction.
2. Ensure that the Complexity Analysis accurately represents the project, so the Agency Administrator understands the identified risks and the mitigating measures enacted. This may require on-site review in Wildland Urban Interface (WUI) or high complexity situations by the Technical Reviewer.
3. Check the prescription parameters against the fuel types to ensure that the project as planned has a reasonable chance of

meeting the resource management objectives.

4. Ensure that the fire behavior calculations and/or prescription parameters are appropriate and within the acceptable range.
5. Ensure that the ignition, holding and contingency plans are consistent with the predicted fire behavior.
6. Complete and sign the Technical Review Checklist (See Burn Plan Template, Appendix B) and the Prescribed Fire Plan signature page.

## Prescribed Fire Plan Preparer

For the purpose of this document, the Prescribed Fire Plan Preparer is defined as the individual responsible for the preparation of the Prescribed Fire Plan. Several people may be involved in the preparation of the Prescribed Fire Plan, but the Prescribed Fire Plan Preparer is responsible for the final plan content. The primary preparer of the Prescribed Fire Plan will sign the signature page.

The preparer is responsible to:

1. Prepare the Prescribed Fire Plan in accordance with this guide's policy and direction.
2. Coordinate with the resource management and/or technical specialists to ensure that the plan meets management and operational objectives.
3. Interact with the Technical Reviewer to ensure that all plan elements are adequately addressed.
4. Complete and sign the Complexity Analysis.

## Prescribed Fire Burn Boss (RXB1/RXB2/RXB3)

The Prescribed Fire Burn Boss is responsible to the Agency Administrator, Prescribed Fire Manager, or FMO/local fire management organization for implementing the Prescribed Fire Plan.

The Prescribed Fire Burn Boss is responsible to:

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1. Review the Prescribed Fire Plan prior to implementation and ensure all required elements and objectives are addressed.
  2. Inspect the burn unit to validate Prescribed Fire Plan elements including areas of special concern as well ensuring that holding/contingency plans adequately address expected fire behavior outside the unit(s).
  3. Obtain current weather and smoke management forecasts, updates, and special advisories from a meteorologist.
  4. Maintain communication with the Agency Administrator, Prescribed Fire Manager, or FMO/local fire management organization.
  5. Ensure that the Agency Administrator Pre-Ignition Approval Checklist is valid (See Burn Plan Template, Appendix B)
  6. Take to the field those portions of the Prescribed Fire Plan necessary for completing the briefing and safe project implementation.
  7. Complete and sign the Prescribed Fire GO/NO-GO Checklist (See Burn Plan Template, Appendix B).
  8. Ensure availability of any contingency resources and management of those resources if deployed.
  9. Ensure that all operations are conducted in a safe manner and in accordance with the approved plan and established standards and guidelines.
  10. Verify qualifications of all assigned personnel. Conduct the personnel/safety briefing to ensure a safe operation.
  11. Conduct the test fire and document the results.
  12. Supervise assigned personnel and direct the ignition, holding and monitoring operations. The Prescribed Fire Burn Boss will be responsible for implementation including mop-up and patrol unless otherwise assigned to other qualified personnel.
  13. Declare the prescribed fire out unless the responsibility for it is formally passed to another Prescribed Fire Burn Boss, Prescribed Fire Manager or the local fire management organization.
  14. Determine when the prescribed fire is not within prescription parameters (both short and long term) or is not meeting objectives.
  15. Declare an escaped prescribed fire a wildfire (if responsibility is assigned in the plan).
  16. Manage the incident or oversee the transition to another Incident Commander if an escape occurs.
  17. Ensure that reports are completed.
  18. Coordinate with adjacent landowners, cooperators and permittees as designated in the Prescribed Fire Plan.
- ### **Fire Management Officer (FMO)/ Fire Program Manager**
- The Fire Management Officer (FMO)/Fire Program Manager is responsible to the Agency Administrator for planning, implementing and monitoring of the Prescribed Fire Program in accordance with policy and direction.
- The FMO/Fire Program Manager is responsible to:
1. Ensure compliance with National, Regional, tribal and local fire policy and direction, as well as applicable state and local laws.
  2. Ensure that Preparedness Level Restrictions are adhered to. At National Preparedness Levels Four and Five, prescribed fire implementation is restricted. See the National Interagency Mobilization Guide for details.
  3. Ensure that both the Prescribed Fire Plan Preparer and the Technical Reviewer are qualified or qualified less currency at the level of complexity or higher.
  4. Ensure that trained and qualified personnel are available to participate in the Prescribed Fire Program.
  5. Assign the Prescribed Fire Burn Boss.
  6. Ensure a Prescribed Fire Plan with written approval exists for each prescribed fire project.
  7. Review the Prescribed Fire Plan to assess the impact of the project on the unit's workload; include the project in the unit's Annual Work Plan; assess the unit's

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- ability to implement the project; and assess the need for additional implementation resources.
  8. Ensure that all prescribed fires are conducted in accordance with the approved Prescribed Fire Plan and established standards and guidelines.
  9. Declare an escaped prescribed fire a wildfire (if responsibility is assigned in the plan).
  10. Act as liaison/coordinator to the Agency Administrator, Prescribed Fire Manager and/or Prescribed Fire Burn Boss, local dispatch office, other units, other agencies, air quality authorities, news media, transportation agencies, and safety officials.
  11. Ensure that projects are reported through the local office and comply with national reporting guidelines.
  12. Ensure that fuels management projects and interagency support actions are reported through the proper reporting systems.
  13. Ensure that periodic reviews and inspections of the Prescribed Fire Program are completed.
  14. Update Agency Administrator on the progress of the prescribed fire (as necessary).
  15. Ensure that projects are monitored, evaluated and documented as a part of the project file.

### **Prescribed Fire Manager (RXM1/RXM2)**

The Prescribed Fire Manager is responsible for implementing and coordinating assigned prescribed fire activities. A Prescribed Fire Manager may be assigned during periods when multiple simultaneous prescribed fires are being conducted; when multiple prescribed fires will be conducted within a short time frame; or where there is complex interagency involvement.

The Prescribed Fire Manager is responsible to:

1. Review Prescribed Fire Plans prior to implementation.
2. Monitor all prescribed fire operations.

3. Ensure that all operations are conducted in a safe manner and in accordance with the approved plan(s) and established standards and guidelines.
4. Act as coordinator/liaison between the burn organization(s) and other offices, agencies, air quality authorities, news media, transportation agencies, safety officials, and interested public.
5. Declare an escaped prescribed fire a wildfire (if responsibility is assigned in the plan).
6. Obtain and interpret long-term weather information.
7. Brief the Burn Bosses and direct operational assignments according to policies, priorities and standards.
8. Set priorities for allocation of resources.
9. Ensure the completion of all required documentation including the evaluation and documentation of accomplishments, fire behavior and fire effects, operation procedures, and cost summaries.

### **Firing Boss (FIRB)**

The Firing Boss reports to the Prescribed Fire Burn Boss and is responsible for supervising and directing ground and/or aerial ignition operations according to established standards in the Prescribed Fire Plan.

The Firing Boss is responsible to:

1. Review the Prescribed Fire Plan and the burn unit prior to implementation.
2. Brief personnel on project objectives and ignition operations.
3. Complete the test fire according to the ignition plan at the direction of the Prescribed Fire Burn Boss.
4. Conduct ignition operations in a safe manner according to the ignition plan.
5. Identify the impacts of ignition on the control and desired fire effects.
6. Coordinate ignition operations with the Holding Specialist.

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## Holding Specialist

The supervisory position in charge of the holding forces reports to the Prescribed Fire Burn Boss. There is no specific NWCG approved prescribed fire position for this function. This position is assigned by name and title using PMS 310-1 mnemonics. Holding functions will be managed by personnel qualified at the appropriate Incident Command System (ICS) wildland fire operations standard and as required by the prescribed fire complexity, assigned resources, and operational span of control.

The Holding Specialist is responsible to:

1. Review the Prescribed Fire Plan and the burn unit prior to implementation.
2. Brief holding personnel on project objectives and holding operations.
3. Conduct holding operations in a safe manner according to the holding plan.
4. Coordinate holding operations with the Firing Boss.
5. Confine the fire to a predetermined area, mop up, and patrol.
6. Maintain communication with Burn Boss on holding progress and/or problems.

For some prescribed fires, there may be no holding requirements or the holding duties are assumed by the Prescribed Fire Burn Boss.

## Fire Effects Monitor (FEMO)

The Fire Effects Monitor (FEMO) is responsible for collecting the onsite weather, fire behavior, and fire effects information needed to assess whether the fire is achieving established resource management objectives.

The FEMO is responsible to:

1. Review the monitoring plan prior to implementation.
2. Monitor, obtain, and record weather data.
3. Monitor and record fire behavior data throughout the burn operations.
4. Recon the burn unit/area assigned.
5. Plot the burn area and perimeter on a map.
6. Monitor and record smoke management information.
7. Monitor first order fire effects.

8. Provide monitoring summary of the fire.
9. Provide fire behavior and weather information to burn personnel as appropriate.

## Helitorch Manager (HTMG)

The Helitorch Manager is responsible to manage the helitorch operation, supervise the mixing operation, and provide technical assistance to the Prescribed Fire Burn Boss/Ignition Specialist. The HTMG may also serve as Helicopter Manager and Helitorch Manager or Helicopter Parking Tender (but not both).

## Plastic Sphere Dispenser Operator (PLDO)

The Plastic Sphere Dispenser Operator (PLDO) is responsible for the preparation, operation, maintenance, and care of the dispenser. The PLDO reports to the Ignition Specialist.

## Helitorch Mixmaster (HTMM)

The Helitorch Mixmaster (HTMM) is responsible for supervising the mixing/filling operations. The HTMM may also serve as Helitorch Manager or Helicopter Manager.

## Resource Specialist or Resource Advisor (READ)

The Resource Specialist/READ is responsible for ensuring the prescribed fire project is planned and implemented in a manner supporting the unit's resource management goals and objectives. The Resource Specialist/READ is responsible to the Agency Administrator.

The Resource Specialist/READ is responsible to:

1. Ensure resource management representation in the preparation of the Prescribed Fire Plan.
2. Ensure a review of Prescribed Fire Plans is conducted before each plan is submitted for approval.
3. Evaluate the prescribed fire project in terms of meeting objectives..
4. Provide resource information and direction to the Prescribed Fire Burn Boss.

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5. Present information at briefings on resources, priorities, and issues of concern.
  6. Coordinate with adjacent landowners, cooperators and permittees as designated in Prescribed Fire plan or by Burn Boss.

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## Amendments

There may be a need to make amendments to the Prescribed Fire Plan. These are changes to the Prescribed Fire Plan that require Agency Administrator signature. When changes are necessary, plans must be amended to identify the affected sections; the reason for the change(s); and have the changes clearly identified. For amendments, the same standards for Prescribed Fire Plan preparation, review, and approval apply.

Common reasons for amending the Prescribed Fire Plan may include:

- Changes to objectives.
- Changes to complexity.
- Changes to fire behavior prescription parameters.
- Changes to project area boundaries resulting in either an increase or decrease in area.
- Reduction in resource capabilities identified as required in the plan.
- Major changes to ignition methods including ground ignition to aerial ignition; aerial ignition to hand ignition; hand drip torch ignition to use of terra torch ignition (includes ATV mounted ignition devices); and/or hand ignition from roadways to hand ignition from boats or other watercraft.

To avoid having to amend the Prescribed Fire Plan, flexibility should be built into the plan that will allow for a range of adjustments during the prescribed fire. When building flexibility, the

range of identified options must remain within the scope of the Complexity Analysis.

Examples of flexibility that can be built into a prescribed fire plan:

- The Prescribed Fire Plan may state that on burn day and subsequent days of the prescribed fire, a mix of the number and kinds of hand crews and engines may be modified as long as stated production capabilities are not compromised.
- As the prescribed fire progresses from ignition to holding to mop up and patrol, specified capabilities and/or types of resources may be adjusted. If these flexibilities are built into the Prescribed Fire Plan, there must be a clear statement as to the work capability requirements of the resources at the various stages of the prescribed fire.
- Minor changes in burn unit boundaries to facilitate holding and/or ignition, as long as the area in question has been in the NEPA document, requires no change in holding or ignition resources and is within the project boundaries.
- Additional resources may be assigned to the project without amending the burn plan if the addition of these resources does not change the complexity of the burn or require additional supervisory positions. These changes must be documented in the daily briefing.

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## Safety

The Federal Wildland Fire Policy states that firefighter and public safety is first priority. Prescribed Fire Plans and activities must reflect this commitment. Every person involved in a prescribed fire is responsible for identifying safety issues and concerns. It is the responsibility of each individual participating in prescribed fire activities to notify immediate supervisor of any possible misunderstanding of assigned tasks or safety concerns related to the assignment.

NWCG established Work/Rest Guidelines and span of control apply equally to wildland and prescribed fire operations. The management of crew, overhead, and support personnel rest to assure safe, productive fire operations is the responsibility of all supervisory fire management personnel (refer to *NWCG Interagency Incident Business Management Handbook*, PMS 902, NFES 3139).

Exposure to smoke during prescribed fire operations can be a significant safety concern. Research has shown that exposure to smoke on prescribed fires, especially in holding and ignition positions, often exceeds that on wildfire. At a minimum, smoke exposure must be addressed in the Job Hazard Analysis (JHA) and smoke management element. Public safety impacts from smoke should be addressed in the Smoke Management and Air Quality Element as well as the Public, Personnel Safety, Medical Element.

Transportation and use of any product containing chemicals (drip torch fuel, aviation gas, sphere dispensers, fusees, fuel thickener, etc.) must be in compliance with the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and Department of Transportation Regulations (49 CFR Part 171), and agency specific guidance. Material Safety Data Sheets (MSDS) for hazardous materials used on projects should be consulted in developing the JHA.

The SAFENET form and process is designed for reporting and correcting unsafe situations and is applicable to prescribed fire applications.

The risk management process identified in the NWCG Incident Response Pocket Guide (IRPG, PMS 410-1) helps ensure that critical factors and risks associated with prescribed fire operations are considered during decision making. This process should be applied to all prescribed fire planning and operations.

Consider using a Safety Officer on high complexity prescribed fires and others where the complexity analysis shows the need or indicates a higher than normal hazard.

A qualified Safety Officer is defined as a currently qualified Safety Officer, at any Type level (Types 1, 2 or 3), as defined by the NWCG, *Wildland and Prescribed Fire Qualification System Guide* (PMS 310-1).

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# Prescribed Fire Plan

The Prescribed Fire Plan is the site-specific implementation document. It is a legal document that provides the Agency Administrator the information needed to approve the plan and the Prescribed Fire Burn Boss with all the information needed to implement the prescribed fire. Prescribed fire projects must be implemented in compliance with the written plan.

Prescribed Fire Plans will vary in their degree of detail. The size and complexity of the prescribed fire project will determine the level of detail required. The Prescribed Fire Plan Template (Appendix B) must be utilized. Each element must be addressed and then assembled in the sequence identified in the template. Should an element not apply to a specific prescribed fire plan, not applicable (N/A) may be utilized. Programmatic plans for multiple units under like conditions may be appropriate. Additional information may be added as appendices.

If an interagency mixed ownership Prescribed Fire Plan is being prepared, the development of all appropriate elements within the plan will be conducted in an interagency setting. Interagency agreements and Memorandums of Understanding (MOU) and/or private land owner agreements are required to implement prescribed fire on multiple ownerships.

Listed below are the planning explanations of each individual element required as part of a complete Prescribed Fire Plan and implementation policy related to the element.

## **Element 1. Signature Page**

The following information must be included on the signature page:

1. Administrative unit name.
2. Prescribed Fire Unit (burn unit)/Project name.
3. At a minimum, three dated signatures are required: a Prescribed Fire Plan Preparer, a Technical Reviewer, and an Agency Administrator. Additional signatures may be included as required by the individual unit.

4. Final determined complexity rating(s).
5. If the plan needs to be amended, the signed and dated amendments must be attached to the Prescribed Fire Plan (see Chapter 4).

## **Element 2. GO/NO-GO Checklists**

### **Agency Administrator Pre-Ignition Approval Checklist**

The Agency Administrator's Pre-Ignition Approval Checklist (Burn Plan Template, Appendix B) is required to be completed. The Agency Administrator's Pre-Ignition Approval Checklist evaluates whether compliance requirements, Prescribed Fire Plan's elements, and internal and external notification(s) have been completed and expresses the Agency Administrator's intent to implement the Prescribed Fire Plan. The checklist establishes the expiration date for the implementation of the Prescribed Fire Plan. If ignition of the prescribed fire is not initiated prior to expiration date determined by the Agency Administrator, a new approval is required. An 'acting' Agency Administrator may sign the Agency Administrator Pre-Ignition Approval Checklist if authority to do so has been delegated. If the Prescribed Fire Plan is amended, a review and re-validation of the Agency Administrator Pre-Ignition Approval Checklist would be required and included in the Project File.

### **Prescribed Fire GO/NO-GO Checklist**

Prior to all ignition operations, the assigned Prescribed Fire Burn Boss will complete and sign the Prescribed Fire GO/NO-GO Checklist (Burn Plan Template, Appendix B). This checklist is a minimum standard and agencies may elect to add questions and/or approval signatures. For each day of active ignition on a prescribed fire, a separate daily GO/NO-GO Checklist is required.

## **Element 3. Complexity Analysis**

Risk management is a foundation for all prescribed fire activities. Risks and uncertainties

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relating to prescribed fire activities must be understood, analyzed, communicated, and managed as they relate to the cost of either doing or not doing an activity. At a minimum, those risks from the Complexity Analysis that are rated high and can not be mitigated will be identified with a discussion of the risks associated in the Summary Complexity Rating Rationale. This discussion will also be included in the Complexity Analysis Summary page (Burn Plan Template, Appendix B).

The Prescribed Fire Complexity Rating must be completed utilizing the Prescribed Fire Complexity Rating System Guide, NWCG, January, 2004 (or current version).

The purpose of the complexity rating process is to provide:

- Assignment of a complexity rating of high, moderate, or low to the prescribed fire.
- Management and implementation personnel a relative ranking as to the overall complexity of a specific prescribed fire project.
- A process that can be used to identify Prescribed Fire Plan elements or characteristics that may pose special problems or concerns.
- A process that identifies mitigation activities needed to reduce the risk/hazard to the implementation personnel and public as well as mitigating potential resource damage.

A preliminary rating will be completed early in the Prescribed Fire Plan development stage. This will identify potential concerns that may be mitigated during the plan preparation process. Once the Prescribed Fire Plan is near completion, the final complexity rating is made. The final complexity rating will be used as a basis for determining prescribed fire organization, Prescribed Fire Burn Boss level, and mitigation measures.

The Summary Complexity Rating Rationale will clearly justify the summary rating for prescribed fire organization and Prescribed Fire Burn Boss level. It must also identify those risks from the Complexity Analysis that are rated high and can not be mitigated and will provide a discussion of

the risks associated. The Complexity Analysis must be signed by the Prescribed Fire Plan Preparer and the Agency Administrator and attached as an appendix to the Prescribed Fire Plan. The Complexity Analysis Summary will be attached to the Prescribed Fire Plan following the GO/NO-GO Checklists.

Separate prescriptions and/or burn organizations for different stages of implementation may result in multiple Complexity Analyses and ratings. For example, a plan may have separate prescriptions for spring and fall burning which may require different organizations and constitute the need for additional complexity analyses.

If a prescribed fire complexity changes which results in different Prescribed Fire Burn Boss qualifications, a separate complexity analysis is required. For example, for certain prescribed fires conducted over time, progressive or sequential actions may reduce complexity, organization and Prescribed Fire Burn Boss qualifications. (e.g. a large scale, high complexity prescribed fire has been black-lined, portions burned and operations suspended for a period of time then resumed to continue or finish the prescribed fire). In this case, a separate Complexity Analysis will be developed to reflect the reduced complexity rating and will be included in the appendix of the Prescribed Fire Plan.

#### **Element 4. Description of the Prescribed Fire Area**

##### **A. Physical Description**

This section of the plan will describe the physical features of the prescribed fire area.

- **Location:** Narrative description of the location of the prescribed fire project including a legal description, UTM and/or latitude/longitude (decimal degrees; NAD83 preferred), county, and state.
- **Size:** Area, in acres, of the prescribed fire project with a breakdown by prescribed fire unit and/or ownership if applicable.

- Topography: Identify the upper and lower range of elevation, slope(s) –maximum/minimum and average, and aspect(s) of the prescribed fire project.
- Project Boundary: **The project boundary defines that area where fire will be ignited and may be allowed to burn (some agencies previously called this Maximum Management Area or Allowable Area).** Describe the physical, natural and/or human made boundaries (including multiple units) of the prescribed fire project. This will be done through maps and may include narratives. The entire prescribed fire project area must be analyzed under NEPA.

## B. Vegetation/Fuels Description

This is a description of current vegetation and fuels in the project area and should discuss history including past environmental effects or land management practices and how they have impacted the fuel characteristics. Identify any reference material used.

- Describe the structure and composition of the vegetation type(s) and fuel characteristics. This description may include natural or activity fuels, total fuel load (both live and dead) in tons/acre, dead fuel load by time-lag size classes, live fuel load (woody/herbaceous), fuel bed depth, and vertical and horizontal arrangement within the project boundary.
- Describe the percent of the unit composed of each vegetative type and the corresponding fuel model(s).
- Identify conditions (fuels, slope, and aspect) in and adjacent to boundaries that may be a potential threat for escaped fire.

- Identify any abiotic conditions like airshed, climate, soils, etc. as appropriate.

## C. Description of Unique Features and Resources:

List and discuss special features, hazards, regulations, issues, constraints, etc. Examples may include: fences to protect, power poles, historical/cultural sites, threatened and endangered species or habitat, etc.

## D. Maps:

Maps will be developed and included in the Prescribed Fire Plan. At a minimum, the plan will include a vicinity and project map. The number of maps, map size and scale, legend and level of detail should be appropriate for the complexity of the project. All maps will include the standard mapping elements: title, name of preparer(s), date, north arrow, scale, and legend.

- Vicinity Map: Shows prominent features including roads, streams, water sources, towns, structures, and the proximity of the burn unit(s) to these features. Transportation route(s) will be identified. Map scale will be such that the burn units can be located on the ground and in sufficient detail to guide implementation.
- Project Map(s): The project map(s) identify features in sufficient detail to guide and assist in operational implementation of the prescribed fire. Topographic, vegetative, or aerial photo maps should be used as the base map. ICS map display symbols, identified in the Fireline Handbook PMS 410-1 will be used as appropriate. Examples of features that should be included on the project map(s) are: project boundary, individual unit boundaries, ownership, fireline locations, natural barriers, fuel model locations, proposed ignition patterns and sequence, critical holding points, hazards, safety

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zones, escape routes, helispots, areas of special concern, smoke management issues (predicted plume dispersion, sensitive receptors, etc), escaped fire contingency actions (primary and secondary control lines, trigger points, etc), water sources, location of treatment monitoring plots, etc. if these are significant in communicating project implementation.

## **Element 5. Goals and Objectives**

A short summary description will be developed that identifies the purpose of the prescribed fire and the resource management goals from the supporting L/RMPs and/or NEPA documents. The summary will identify desired future conditions of the prescribed fire project. This should be consistent with the appropriate land management goals. Include a discussion of future Fire Regime Condition Class (FRCC) post-treatment conditions if applicable.

Describe in clear, concise statements the specific measurable resource and fire objectives for this prescribed fire. Objectives will be measurable and quantifiable so prescription elements can be developed to meet those objectives and the success of the project can be determined following implementation.

## **Element 6. Funding**

Identify the funding source(s) and estimated cost(s) of the prescribed fire. Itemize by phase if desired.

## **Element 7. Prescription**

Prescription is defined as the measurable criteria that define a range of conditions during which a prescribed fire may be ignited and held as a prescribed fire.

The plan prescription will describe a range of low to high limits for the environmental (weather, topography, fuels, etc.) and fire behavior (flame lengths, rate of spread, spotting distance, etc.) parameters required to meet Prescribed Fire Plan objectives while meeting smoke management and control objectives.

Parameters are quantitative variables expressed as a range that result in acceptable fire behavior and smoke management.

The range of prescribed fire behavior characteristics (outputs such as: flame lengths, rates of spread, scorch heights, mortality, spotting, etc.) identified in the plan will help determine the acceptable combination of environmental parameters (inputs such as: weather, topography and fuels) under which the prescribed fire can be conducted. In many cases, burning under the extremes of all prescriptive parameters would not meet or possibly exceed the desired prescribed fire behavior characteristics and are therefore out of prescription. The Prescribed Fire Burn Boss must ensure that the prescriptive parameters and fire behavior characteristics as identified in the Prescribed Fire Plan are not exceeded. Empirical evidence (historical evidence or researched data) and judgment may be utilized to identify or calibrate prescriptions. Weaknesses in modeling can be overridden, but must be justified with empirical evidence and/or verified actual fire behavior.

Separate prescriptions may be needed for multiple fuel model conditions to address seasonal differences and/or types of ignition (black lining, aerial ignition, etc). Separate prescriptions may result in multiple complexity ratings and burn organizations. For example, a separate prescription is needed for black-lining operations if conditions will be significantly different from the primary prescription or if the holding resources differ from those identified for ignition and holding phases. Separate prescriptions may result in the need to identify multiple levels of management, organizational structures, implementation measures, and pre-burn considerations.

Holding and contingency plans must be developed with the consideration of the predicted fire behavior outside the project boundary(s). Fire behavior characteristics for fuel models within the maximum spotting distance and/or adjacent to the project boundaries must be considered and modeled using worst-case fire behavior predictions. These predictions will be identified from fire behavior model runs or empirical evidence of the hottest, driest, and windiest prescription limits identified in the Prescribed Fire Plan, along with the most

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extreme environmental conditions (slope, aspect) identified.

A short fire behavior narrative that summarizes the fire behavior identified in the prescription and discusses how it will achieve the desired treatment objectives may be included.

When used, fire behavior calculations must be developed using an appropriate fire behavior modeling program. Include modeling and/or empirical evidence documentation as an appendix or in the fire behavior narrative.

### **Element 8. Scheduling**

Identify the general ignition time frame(s) (i.e. time of day, duration of ignition) or season(s) and note any dates when the project may not be conducted. For prescribed fires with multiple ignitions or burn days, list projected duration.

At National Preparedness Levels Four and Five, prescribed fire implementation is restricted. See National Interagency Mobilization Guide for details.

### **Element 9. Pre-burn Considerations**

Describe on and off-site actions and considerations that need to be conducted prior to implementation. Examples include clearances; line to be built; preparation of critical holding points; snags to be felled or protected; equipment to be pre-positioned; special features to be protected; warning signs to be placed; weather recording; fuels condition sampling; monitoring needs; responsibility; and timeframes.

Describe any fuel sampling and weather data that may need to be obtained (See Element 14: Test Fire). This data should be taken at the project site. If this is not possible, use the closest representative site.

The plan will include a list of organizations (including media) and individuals that are to be notified prior to ignition, with information necessary to make the contacts. Reasonable efforts will be made to notify adjacent land owners (or their agents) and other potentially impacted publics. Attempts and/or actual notifications will be documented with date and method and placed in the Project File.

Identify in the burn plan the method and frequency for obtaining weather and smoke management forecast(s).

Spot weather or local area forecasts are required prior to ignition, on all ignition days and any days the fire is actively spreading. A copy of the forecast will be included in the Project File. The Prescribed Fire Burn Boss or other person in charge of mop-up and patrol will also obtain and review the spot weather or area forecast to determine if mop up and patrol resources are adequate.

### **Element 10. Briefing**

All assigned personnel must be briefed at the beginning of each operational period to ensure personnel safety considerations (including the JHA) and prescribed fire objectives and operations are clearly defined and understood. Briefing checklists are required to be included in the Prescribed Fire Plan and will include the following elements:

- Burn Organization and Assignments
- Burn Objectives and Prescription
- Description of the Prescribed Fire Area
- Expected Weather & Fire Behavior
- Communications
- Ignition Plan
- Holding Plan
- Contingency Plan and Assignments
- Wildfire Conversion
- Safety and Medical Plan

The briefing checklist should list briefing topics only, not re-state what is listed in the Prescribed Fire Plan for that element.

The Prescribed Fire Burn Boss will ensure that any new personnel arriving to the prescribed fire receives a briefing prior to assignment.

An Incident Action Plan (IAP) is optional, it is recommended for large multi-day or high complexity prescribed fires.

If aerial ignition devices will be used, include an Aerial Ignition briefing.

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## **Element 11. Organization & Equipment**

The complexity of each prescribed fire determines the organization capabilities needed to safely achieve the objectives specified in the Prescribed Fire Plan. Specify the minimum required implementation organization to meet the capabilities (line production rates, etc.) by position, equipment, and the supplies needed for all phases of the prescribed fire until declared out. At a minimum, a Prescribed Fire Burn Boss will be assigned to every prescribed fire. Positions that may not be filled as collateral duty will be identified in the organization chart of the Prescribed Fire Plan.

Standard ICS fire management principles for span of control and length of assignments will be adhered to when developing burn implementation organization(s) and used in managing prescribed fires. On prescribed fires with large organizations, use the ICS organization and staffing commensurate with the level of complexity. Consider the use of a Prescribed Fire Manager in conducting multiple prescribed fires.

Before implementation (all phases) of the prescribed fire, documentation in the form of an organization chart must be completed. Any changes to the organization during implementation must be documented. Any changes that reflect modification of the capabilities, equipment or supplies will require an amendment. Different organizations may be identified for different phases of implementation (i.e. holding v. mop-up and patrol, different ignition operations, different prescriptions).

Multiple prescriptions for one Prescribed Fire Plan are permissible and in some cases required (Element 7). Multiple prescriptions may require identifying and developing multiple organizations.

The Prescribed Fire Burn Boss is responsible for implementation including mop-up and patrol until the responsibility is formally passed to a Prescribed Fire Burn Boss, Prescribed Fire Manager or the local fire management organization.

## **Element 12. Communication**

Develop communications plan specific to the project's implementation to address safety and tactical resource management needs. Identify and assign command, tactical, and air operations frequencies as needed. Also include any required telephone numbers. Cover under an Incident Action Plan, if utilized.

## **Element 13. Public & Personnel Safety, Medical**

Describe provisions to be made for public and personnel safety. All personnel who are within the active burn area are required to wear personal protective equipment. Identify and analyze the safety hazards unique to the individual prescribed fire project and specify personnel safety and emergency procedures. Include safety hazards (including smoke exposure and impacts) and measures taken to reduce those hazards. Specify emergency medical procedures, evacuation methods, and emergency facilities to be used. A Job Hazard Analysis (JHA) is required for each prescribed fire project and will be attached to the Prescribed Fire Plan as an appendix.

## **Element 14. Test Fire**

Provisions for a test fire are required and results must be recorded. The test fire must be ignited in a representative location and in an area that can be easily controlled. The purpose of the test fire is to verify that the prescribed fire behavior characteristics will meet management objectives and to verify predicted smoke dispersion. In many applications, analysis of the initial ignitions may provide adequate test fire results. On multiple-day projects, evaluation of current active fire behavior, in lieu of a test fire, may provide a comparative basis for continuing and must be documented. If in doubt however, initiate a separate test fire and evaluate results.

Prior to ignition of both the test fire and ignition operations, compare the Prescribed Fire Plan prescription elements, both individually and collectively, against local area or spot weather forecasts, other predicted conditions, and the actual conditions onsite (See element 9: Pre-Burn Considerations) to ensure that predicted

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fire behavior will take place and/or weather parameters will not change to the point of the burn going out of prescription.

### **Element 15. Ignition Plan**

Describe planned ignition operations including firing methods, devices, techniques, sequences, patterns, and ignition staffing for single or multiple unit operations. Maps showing proposed firing patterns may be included. If aerial ignition (or other aerial operations) is planned, cover aviation operations, organization, and safety within the Prescribed Fire Plan, Aerial Ignition Plan, or in an agency specific Aviation Operating Plan (Refer to the Interagency Helicopter Operations Guide, {NFES #1885} and the Interagency Aerial Ignition Guide {NFES #1080} for more detailed information on this topic). Multiple prescriptions and ignition operations (blackline, primary, aerial, etc.) may require identifying and developing multiple ignition organizations.

### **Element 16. Holding Plan**

Describe general procedures to be used for operations to maintain the fire within the project area and meet project objectives until the fire is declared out. This may include mop-up and/or patrol procedures. Describe critical holding points (if any) and mitigation actions. Critical holding points will be identified on the project map. Describe minimum capabilities needed for all phases of implementation (see Element 11: Organization and Equipment). If used, attach or reference modeling outputs or worksheets (i.e. Fireline Handbook production rates, BEHAVE, etc.) and/or documented empirical evidence to justify minimum holding resources required.

Different organizations may be identified for different phases of implementation (i.e. holding v. mop-up and patrol, different ignition operations, different prescriptions). Multiple prescriptions may require identifying multiple complexity ratings and developing multiple holding organizations.

If onsite resources are insufficient to meet the prescribed fire plan objectives, then the Burn Boss should implement the Contingency Plan or Wildfire Conversion.

### **Element 17. Contingency Plan**

*“...If the objectives are not being met the Contingency Plan, a required component of the Prescribed Fire Burn Plan, is implemented. If the Contingency Plan is successful at bringing the project back within the scope of the Prescribed Fire Burn Plan the project continues. If contingency objectives are not met the prescribed fire is converted to a wildfire and Extended Attack is undertaken.”*

*Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy, June 20, 2003, page 12.*

Contingency planning is intended for more than just a response to an escaped fire. The contingency plan is the portion of the Prescribed Fire Plan that considers possible but unlikely events and the contingency resources and actions needed to mitigate those events.

Contingency planning is the determination of initial actions and additional resources needed if the prescribed fire is not meeting, exceeds, or threatens to exceed:

- Project or unit boundary
- Objectives
- Prescription parameters
- Minimum implementation organization
- Smoke impacts
- Other Prescribed Fire Plan elements

The contingency plan will establish trigger points or limits that indicate when additional holding resources and actions are needed.

Contingency planning includes the additional resources required, and the maximum acceptable response time for those resources. Resource needs should be based on fire behavior outputs tied to the worst case fire behavior scenario (as modeled in Element 7: Prescription). Separate contingency plans may be necessary and appropriate to address seasonal differences, types of ignitions or phases of the burn implementation as described in the prescriptions and ignition and holding plans developed for the burn.

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Verify and document availability of identified contingency resources and response time on day of implementation. If contingency resources availability falls below plan levels, actions must be taken to secure operations until identified contingency resources are replaced.

The same contingency resource can be identified for multiple prescribed fire projects. When specific contingency resources are identified for more than one prescribed fire, the local fire management organization(s) must evaluate and document adequacy of all contingency resources within the area. This evaluation must consider:

- Local, current, and predicted fire danger
- Local and regional wildland fire activities.

Once a contingency resource is committed to a specific wildland fire action (wildfire, wildland fire use or prescribed fire), it can no longer be considered a contingency resource for another prescribed fire project and a suitable replacement contingency resource must be identified or the ignition halted.

The Agency Administrator will determine if and when they are to be notified that contingency actions are being taken.

If the contingency actions are successful at bringing the project back within the scope of the Prescribed Fire Plan, the project may continue. If contingency actions are not successful by the end of the next burning period, then the prescribed fire will be converted to a wildfire.

### **Element 18. Wildfire Conversion**

The Prescribed Fire Plan will specify who has the authority to declare a wildfire. A prescribed fire must be declared a wildfire by those identified in the plan when that person(s) determines that the contingency actions have failed or are likely to fail and cannot be mitigated by the end of the next burning period by on-site holding forces and any listed contingency resources. In addition, an escaped prescribed fire must be declared a wildfire when the fire has spread outside the project boundary, or is likely to do so, and cannot be contained by the end of the next burning period. A prescribed fire can be converted to a wildfire for reasons other than an escape.

Describe the actions to be taken when a prescribed fire is declared a wildfire (refer to Wildland Fire and Aviation Program Management and Operations Guide {BIA--Blue Book} and Interagency Standards for Fire and Aviation {Red Book}). Description will include:

- Wildfire declaration (by whom)
- IC assignment
- Notifications: dispatch, Agency Administrator, adjacent land owners, etc.
- Extended attack actions and opportunities to aid in suppression efforts.

After a wildfire declaration, an escaped prescribed fire cannot be returned to prescribed fire status. A WFSA will define appropriate future management actions.

### **Element 19. Smoke Management & Air Quality**

Describe how the project will comply with local community, County, State, Tribal, and Federal air quality regulations. Identify what permits, if any, need to be obtained. Identify smoke sensitive areas including population centers, recreation areas, hospitals, airports, transportation corridors, schools, non-attainment areas, Class I air sheds, and restricted areas that may be impacted. Include modeling outputs and mitigation strategies and techniques to reduce the impacts of smoke production, if required by State Implementation Plans (SIPs) and/or State or local regulations. Reference the Smoke Management Guide for Prescribed and Wildland Fire 2001 Edition for other smoke management planning suggestions and smoke management techniques for reducing or redistributing emissions.

Special considerations must be taken to address smoke when the project is in a non-attainment area for a National Ambient Air Quality Standards including insuring compliance with SIP/TIP provisions and addressing Conformity. Projects which will potentially impact Class I areas should address any efforts to minimize smoke impacts on visibility. Comply with all local, State, Tribal and Federal pre-burn and post-burn data reporting requirements.

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## **Element 20. Monitoring**

Prescribed fire monitoring is defined as the collection and analysis of repeated observations or measurements to evaluate changes in condition and progress toward meeting a management objective. Describe the monitoring that will be required to ensure that Prescribed Fire Plan objectives are met. For the prescribed fire, at a minimum specify the weather, fire behavior and fuels information (forecast and observed) and smoke dispersal monitoring required during all phases of the project and the procedures for acquiring it, including who and when.

## **Element 21. Post-burn Activities**

Describe the post-burn activities that must be completed. This may include post-burn report, safety mitigation measures, and rehabilitation needs including those as a result of pre-burn activities undertaken.

## **Appendices.**

Include all the required appendices.

- A. Maps
- B. Technical Review Checklist
- C. Complexity Analysis
- D. Job Hazard Analysis
- E. Fire Behavior Modeling Documentation or Empirical Documentation

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## Project File

All prescribed fire Project Files will contain the following information. Agencies and/or administrative units may require additional information.

1. Prescribed Fire Plan
2. Monitoring data including weather, fire behavior, fire effects and smoke dispersal observations
3. Weather forecasts
4. Notifications
5. Documented prescribed fire organization(s)
6. Any agreements related to implementation
7. Multiple day GO/NO-GO checklist(s), if applicable
8. Re-validation of the Agency Administrator Pre-Ignition Approval checklist

Depending on the scope and complexity of the prescribed fire, optional information and/or further documentation that may be included in the Project File include:

1. After Action Review (see Chapter 8)
2. Incident Action Plans, Unit Logs
3. Press releases, etc
4. Implementation costs
5. Actual ignition patterns and sequences used
6. Smoke management information
7. Agency individual fire occurrence form
8. Detailed Post Burn Report
9. NEPA documentation
10. Permits

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# Reviews

## After Action Review (AAR)

Each operational shift on a prescribed fire should have an informal After Action Review (AAR). Certain events or a culmination of events that may affect future prescribed fire implementation and/or policy should be submitted via the Roll-up documentation (Found at <http://www.wildfirelessons.net>). The questions to answer in conducting an AAR are:

1. What did we set out to do (what was planned)?
2. What actually happened?
3. Why did it happen that way?
4. What should be sustained? What can be improved?

## Escaped Fire Reviews

The Agency Administrator will be notified of an escaped fire. The Agency Administrator is required to make the proper notifications. All prescribed fires declared a wildfire will have an investigative review initiated by the Agency Administrator. The level and scope of the review will be determined by policy and procedures in Wildland Fire and Aviation Program Management and Operations Guide (BIA--Blue Book) or Interagency Standards for Fire and Aviation (Red Book).

The goal of the escaped prescribed fire review process is to guide future program actions by minimizing future resource damage and/or preventing future escapes from occurring by gathering knowledge and insight for incorporation into future resource management and prescribed fire planning. The objectives of the review are to:

- Determine if the Prescribed Fire Plan was adequate for the project and complied with policy and guidance related to prescribe fire planning and implementation.
- Determine if the prescription, actions, and procedures set forth in the Prescribed Fire Plan were followed.
- Describe and document factual information pertaining to the review.
- Determine if overall policy, guidance, and procedures relating to prescribed fire operations are adequate.

- Determine the level of awareness and the understanding of the personnel involved, in regard to procedures and guidance.

At a minimum, the escaped fire review report will include the following elements:

1. An analysis of seasonal severity, weather events, and on-site conditions leading up to the wildfire declaration.
2. An analysis of the actions taken leading up to the wildfire declaration for consistency with the Prescribed Fire Plan.
3. An analysis of the Prescribed Fire Plan for consistency with policy.
4. An analysis of the prescribed fire prescription and associated environmental parameters.
5. A review of the approving line officer's qualifications, experience, and involvement.
6. A review of the qualifications and experience of key personnel involved.
7. A summary of causal agents contributing to the wildfire declaration.

Document the incident, including all actions prior to and after the escape. Set up a file that includes all pertinent information, i.e., the Prescribed Fire Plan; a chronology of events including the prescribed fire report; unit logs and individual statements; weather forecasts including any spot forecasts; weather information taken on site and Remote Automated Weather Station (RAWS) and National Fire Danger Rating System (NFDRS) data for the day of the escape from the nearest station(s); photos; and all other pertinent information. Since all prescribed fires are planned management actions, an escape may lead to a Tort Claim and liability issues. Special attention to documentation is critical.

An independent review team is recommended for conducting escaped fire reviews. The number of individuals assigned to the team and their functional expertise should be commensurate with the scope and focus of the review. Interagency participation is highly recommended for all prescribed fire reviews.

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## **References**

NWCG Glossary of Wildland Fire Terminology PMS 205

Additional definitions found in the NWCG glossary of Project Management Terms  
(<http://www.nwcg.gov/teams/pmo/products/glossaries.htm>)

National Fire & Aviation Executive Board, Federal Fire Policy Directives Task Group – Common Policy Language, November 19, 2004

Interagency Strategy for the Implementation of Federal Wildland Fire Management policy, September 7, 2004

Smoke Management Guide for Prescribed and Wildland Fire 2001 Edition, December 2001

Restoring Fire Adapted Ecosystems on federal Lands - A Cohesive Fuel Treatment Strategy for Protecting People and Sustaining Natural resources. August 2, 2002

10-Year Comprehensive Strategy Implementation Plan, May 2002

Prescribed Fire Complexity Rating System Guide PMS 424, January 2002

Review and Update of the 1995 Federal Wildland Fire Management Policy, January 2001.

Cerro Grande Prescribed Fire Investigative Report - National Park Service, May 18, 2000

Sawtooth Mountain Prescribed Fire Burnover Fatality - Bureau of Indian Affairs Fort Apache Agency, Arizona May 14, 2003

Lowden Ranch Prescribed Fire Review Final Report - Bureau of Land Management, July 22, 1999

Wildland and Prescribed Fire Qualifications System Guide PMS 310-1  
January 2002

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## ***Appendix A: Laws and Authorities***

Organic Administration Act of June 4, 1897 (16 U. S. C. 551)

Weeks Law, Act of March 1, 1911 (16 U. S. C. 563)

National Park Service Act of 1916 as amended (67 Stat. 495; 16 U.S.C. 1 et seq.)

Protection Act of September 20, 1922 (42 Stat. 857; 16 U.S.C. 594)

Clark-McNary Act of 1928 (45 Stat. 221; 16 U. S. C. 487)

McSweeney-McNary Act of 1928 (45 Stat. 221; 16 U.S.C. 487)

Economy Act of June 30, 1932 (47 Stat. 417; 31 U.S.C. 1535)

Taylor Grazing Act of June 28, 1934 (48 Stat. 1269; 43 U.S.C. 315)

Oregon and California Act of August 28, 1937 (50 Stat. 875; 43 U.S.C. 1181e)

Bankhead-Jones Farm Tenant Act of July 22, 1937 (7 U. S. C. 1010 - 1011)

Federal Property and Administrative Service Act of 1949 (40 U.S.C. 471; et seq.)

Reciprocal Fire Protection Act of May 27, 1955 (69 Stat. 66; 42 U.S.C. 1856a)

Clean Air Act of July 14, 1955, as amended (42 U. S. C. 7401 et seq.)

Multiple-Use Sustained Yield Act of 1960 (16 U. S. C. 528)

Wilderness Act of 1964 (16 U. S. C. 1131 - 1132)

National Wildlife Refuge System Administration Act of 1966 as amended (80 Stat. 927; 16 U.S.C. 668dd through 668ee)

National Environmental Policy Act of 1969 (42 U. S. C. 4321)

Alaska Native Claims Settlement Act of 1971 (85 Stat. 688; 43 U.S.C. 1601)

Endangered Species Act of 1973 (16 U. S. C. 1531 - 1544)

Disaster Relief Act of May 22, 1974 (88 Stat. 143; 42 U.S.C. 5121)

Federal Fire Prevention and Control Act of 1974 (88 Stat. 1535; 15 U.S.C. 2201)

National Forest Management Act of 1976 (16 U. S. C. 1600 et seq.)

Federal Land Policy and Management Act of 1976 (90 Stat. 2743)

Federal Grant and Cooperative Agreement Act of 1977 (P.L. 950224, as amended by P.L. 97-258, September 13, 1982 (96 Stat. 1003; 31 U.S.C. 6301 thru 6308)

Alaska National Interest Lands Conservation Act of 1980 (94 Stat. 2371)

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Supplemental Appropriation Act of September 10, 1982 (96 Stat. 837)

Wildfire Suppression Assistance Act of 1989 (P.L. 100-428, as amended by P.L. 101-11, April 7, 1989), 42 U. S. C. 1856

Indian Self-Determination and Education Assistance Act (PL 93-638) as amended

National Indian Forest Resources Management Act (P. L. 101-630 November 28, 1990)

Tribal Self-Governance Act of 1994 (P.L. 103-413)

Department of the Interior and Related Agencies Appropriations Act, Fiscal Year 1995 (P.L. 103-332)

National Wildlife Refuge System Improvement Act of 1997 (P.L. 105-57)

Federal Financial Assistance Management Act of 1999 (P.L. 106-107)

Healthy Forest Restoration Act of 2003 (P.L. 108-18, 117 Stat. 1887)

Tribal Forest Protection Act of 2004 (P.L. 108-287)

Department of the Interior, Departmental Manual; Part 620: Wildland Fire Management;  
Chapter 4: Fuels Management and Wildland-Urban Interface Community Assistance

Department of Agriculture, US Forest Service Manual; FSM 5100: Fire Management; Chapter 5140:  
Fire Use

National Historic Preservation Act (1966 as amended)

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## ***Appendix B: Prescribed Fire Plan Template***

A standardized, reproducible template form for the Prescribed Fire Plan development process is included in this appendix. A standardized format is provided for the Prescribed Fire Plan in PDF. An electronic version editable in Word is also available. Users should prepare the plan using the electronic version.

In the electronic Word version, the Project Name and/or Unit Name should be entered in the document's header which will automatically appear on each following page of the plan.

To insert information into the document's header:

1. Double-click in the header region (upper region of each page displayed on the screen).
2. Type Project and/or Unit information.
3. Double-click *outside* the header region in the body of the document.

You may also access the header under **View > Headers and Footers**. This will open the header region for edits automatically. After entering the information, go again to **View > Headers and Footers** which will return you to being able to enter information into the body of the document.

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## **PRESCRIBED FIRE PLAN**

**ADMINISTRATIVE UNIT(S):** \_\_\_\_\_

**PRESCRIBED FIRE NAME:** \_\_\_\_\_

**PREPARED BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**Name & Qualification**

**TECHNICAL REVIEW BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**Name & Qualification**

**COMPLEXITY RATING:** \_\_\_\_\_

**APPROVED BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**Agency Administrator**

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

## **ELEMENT 2: AGENCY ADMINISTRATOR PRE-IGNITION APPROVAL CHECKLIST**

Instructions: The Agency Administrator's Pre-Ignition Approval is the intermediate planning review process (i.e. between the Prescribed Fire Complexity Rating System Guide and Go/No-Go Checklist) that should be completed before a prescribed fire can be implemented. The Agency Administrator's Pre-Ignition Approval evaluates whether compliance requirements, Prescribed Fire Plan elements, and internal and external notifications have been or will be completed and expresses the Agency Administrator's intent to implement the Prescribed Fire Plan. If ignition of the prescribed fire is not initiated prior to expiration date determined by the Agency Administrator, a new approval will be required.

<b>YES</b>	<b>NO</b>	<b>KEY ELEMENT QUESTIONS</b>
		Is the Prescribed Fire Plan up to date? <i>Hints: amendments, seasonality.</i>
		Will all compliance requirements be completed? <i>Hints: cultural, threatened and endangered species, smoke management, NEPA.</i>
		Is risk management in place and the residual risk acceptable? <i>Hints: Prescribed Fire Complexity Rating Guide completed with rational and mitigation measures identified and documented?</i>
		Will all elements of the Prescribed Fire Plan be met? <i>Hints: Preparation work, mitigation, weather, organization, prescription, contingency resources</i>
		Will all internal and external notifications and media releases be completed? <i>Hints: Preparedness level restrictions</i>
		Will key agency staff be fully briefed and understand prescribed fire implementation?
		Are there any other extenuating circumstances that would preclude the successful implementation of the plan?
		Have you determined if and when you are to be notified that contingency actions are being taken? Will this be communicated to the Burn Boss?
		Other:

Recommended by: \_\_\_\_\_ Date: \_\_\_\_\_  
FMO/Prescribed Fire Burn Boss

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
Agency Administrator

Approval expires (date): \_\_\_\_\_

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

**ELEMENT 2: PRESCRIBED FIRE GO/NO-GO CHECKLIST**

<b>A.</b> Has the burn unit experienced unusual drought conditions or contain above normal fuel loadings which were not considered in the prescription development? If <u>NO</u> proceed with checklist., if <u>YES</u> go to item B.	<b>YES</b>	<b>NO</b>
<b>B.</b> If <u>YES</u> have appropriate changes been made to the Ignition and Holding plan and the Mop Up and Patrol Plans? If <u>YES</u> proceed with checklist below, if <u>NO</u> STOP.		

<b>YES</b>	<b>NO</b>	<b>QUESTIONS</b>
		Are ALL fire prescription elements met?
		Are ALL smoke management specifications met?
		Has ALL required current and projected fire weather forecast been obtained and are they favorable?
		Are ALL planned operations personnel and equipment on-site, available, and operational?
		Has the availability of ALL contingency resources been checked, and are they available?
		Have ALL personnel been briefed on the project objectives, their assignment, safety hazards, escape routes, and safety zones?
		Have all the pre-burn considerations identified in the Prescribed Fire Plan been completed or addressed?
		Have ALL the required notifications been made?
		Are ALL permits and clearances obtained?
		In your opinion, can the burn be carried out according to the Prescribed Fire Plan and will it meet the planned objective?

**If all the questions were answered "YES" proceed with a test fire. Document the current conditions, location, and results**

\_\_\_\_\_  
Burn Boss

\_\_\_\_\_  
Date

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

### ELEMENT 3 COMPLEXITY ANALYSIS SUMMARY

PRESCRIBED FIRE NAME			
ELEMENT	RISK	POTENTIAL CONSEQUENCE	TECHNICAL DIFFICULTY
1. Potential for escape			
2. The number and dependence of activities			
3. Off-site Values			
4 On-Site Values			
5. Fire Behavior			
6. Management organization			
7. Public and political interest			
8. Fire Treatment objectives			
9 Constraints			
10 Safety			
11. Ignition procedures/ methods			
12. Interagency coordination			
13. Project logistics			
14 Smoke management			

COMPLEXITY RATING SUMMARY	
	OVERALL RATING
<b>RISK</b>	
<b>CONSEQUENCES</b>	
<b>TECHNICAL DIFFICULTY</b>	
<b>SUMMARY COMPLEXITY DETERMINATION</b>	
<b>RATIONALE:</b>	

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

#### **ELEMENT 4: DESCRIPTION OF PRESCRIBED FIRE AREA**

##### **A. Physical Description**

1. Location:
2. Size:
3. Topography:
4. Project Boundary:

##### **B. Vegetation/Fuels Description:**

1. On-site fuels data
2. Adjacent fuels data

##### **C. Description of Unique Features:**

#### **ELEMENT 5: GOALS AND OBJECTIVES**

##### **A. Goals:**

##### **B. Objectives:**

1. Resource objectives:
2. Prescribed fire objectives:

#### **ELEMENT 6: FUNDING:**

##### **A. Cost:**

##### **B. Funding source:**

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

### **ELEMENT 7: PRESCRIPTION**

**A. Environmental Prescription:**

**B. Fire Behavior Prescription:**

### **ELEMENT 8: SCHEDULING**

**A. Ignition Time Frames/Season(s):**

**B. Projected Duration:**

**C. Constraints:**

### **ELEMENT 9: PRE-BURN CONSIDERATIONS**

**A. Considerations:**

1. On Site:
2. Off Site

**B. Method and Frequency for Obtaining Weather and Smoke Management Forecast(s):**

**C. Notifications:**

### **ELEMENT 10: BRIEFING**

**Briefing Checklist:**

- ☐ Burn Organization
- ☐ Burn Objectives
- ☐ Description of Burn Area

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

- ☐ Expected Weather & Fire Behavior
- ☐ Communications
- ☐ Ignition plan
- ☐ Holding Plan
- ☐ Contingency Plan
- ☐ Wildfire Conversion
- ☐ Safety

#### **ELEMENT 11: ORGANIZATION AND EQUIPMENT**

**A. Positions:**

**B. Equipment:**

**C. Supplies:**

#### **ELEMENT 12: COMMUNICATION**

**A. Radio Frequencies**

1. Command Frequency(s):
2. Tactical Frequency(s):
3. Air Operations Frequency(s):

**B. Telephone Numbers:**

#### **ELEMENT 13: PUBLIC AND PERSONNEL SAFETY, MEDICAL**

**A. Safety Hazards:**

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

**B. Measures Taken to Reduce the Hazards:**

**C. Emergency Medical Procedures:**

**D. Emergency Evacuation Methods:**

**E. Emergency facilities:**

#### **ELEMENT 14 TEST FIRE**

**A. Planned location:**

**B. Test Fire Documentation:**

1. Weather conditions On-Site:
2. Test Fire Results:

#### **ELEMENT 15: IGNITION PLAN**

**A. Firing Methods:**

**B. Devices:**

**C. Techniques:**

**D. Sequences:**

**E. Patterns:**

**F. Ignition Staffing:**

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

#### **ELEMENT 16: HOLDING PLAN**

- A. General Procedures for Holding:**
- B. Critical Holding Points and Actions:**
- C. Minimum Organization or Capabilities Needed:**

#### **ELEMENT 17: CONTINGENCY PLAN**

- A. Trigger Points:**
- B. Actions Needed:**
- C. Additional Resources and Maximum Response Time(s):**

#### **ELEMENT 18: WILDFIRE CONVERSION**

- A. Wildfire Declared By:**
- B. IC Assignment:**
- C. Notifications:**
- D. Extended Attack Actions and Opportunities to Aid in Fire Suppression:**

#### **ELEMENT 19: SMOKE MANAGEMENT AND AIR QUALITY**

- A. Compliance:**

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

**B. Permits to be Obtained:**

**C. Smoke Sensitive Areas:**

**D. Impacted Areas:**

**E. Mitigation Strategies and Techniques to Reduce Smoke Impacts:**

#### **ELEMENT 20: MONITORING**

**A. Fuels Information (forecast and observed) Required and Procedures:**

**B. Weather Monitoring Required and Procedures:**

**C. Fire Behavior Monitoring Required and Procedures:**

**D. Monitoring Required To Ensure That Prescribed Fire Plan Objectives Are Met:**

**E. Smoke Dispersal Monitoring Required and Procedures:**

#### **ELEMENT 21: POST-BURN ACTIVITIES**

**Post-burn Activities That Must be Completed:**

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

## **APPENDICES**

- A. Maps: Vicinity and Project**
- B. Technical Review Checklist**
- C. Complexity Analysis**
- D. Job Hazard Analysis**
- E. Fire Behavior Modeling Documentation or Empirical Documentation (unless it is included in the fire behavior narrative in Element 7; Prescription)**

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

**A: MAPS**

**1. Vicinity Map:**

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

**2. Project Map:**

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

**C. TECHNICAL REVIEWER CHECKLIST**

<b>PRESCRIBED FIRE PLAN ELEMENTS:</b>	<b>S /U</b>	<b>COMMENTS</b>
<b>1. Signature page</b>		
<b>2. GO/NO-GO Checklists</b>		
<b>3. Complexity Analysis Summary</b>		
<b>4. Description of the Prescribed Fire Area</b>		
<b>5. Goals and Objectives</b>		
<b>6. Funding</b>		
<b>7. Prescription</b>		
<b>8. Scheduling</b>		
<b>9. Pre-burn Considerations</b>		
<b>10. Briefing</b>		
<b>11. Organization and Equipment</b>		
<b>12. Communication</b>		
<b>13. Public and Personnel Safety, Medical</b>		
<b>14. Test Fire</b>		
<b>15. Ignition Plan</b>		
<b>16. Holding Plan</b>		
<b>17. Contingency Plan</b>		
<b>18. Wildfire Conversion</b>		
<b>19. Smoke Management and Air Quality</b>		
<b>20. Monitoring</b>		
<b>21. Post-burn Activities</b>		
<b>Appendix A: Maps</b>		
<b>Appendix B: Complexity Analysis</b>		
<b>Appendix C: JHA</b>		
<b>Appendix D: Fire Prediction Modeling Runs</b>		
<b>Other</b>		

S = Satisfactory

U = Unsatisfactory

**Recommended for Approval:**

**Not Recommended for Approval:**

\_\_\_\_\_  
Technical Reviewer

\_\_\_\_\_  
Qualification and currency (Y/N)

\_\_\_\_\_  
Date

☐ **Approval is recommended subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.**

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

### **C: COMPLEXITY ANALYSIS**

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

### **D. JOB HAZARD ANALYSIS**

**Project Name:** \_\_\_\_\_

**Unit Name:** \_\_\_\_\_

**E. FIRE BEHAVIOR MODELING DOCUMENTATION OR EMPIRICAL  
DOCUMENTATION**

UNITED STATES DEPARTMENT OF THE INTERIOR OI-1202 INDIVIDUAL FIRE REPORT  1 STATUS CODE ____ 2 REPORTING AGENCY ____	3 a UNIT b SUB UNIT c YEARS d FIRE NUMBER ____	4 TYPE 5 CAUSE 6 PEOPLE 7 NRVC ____
---	---	--

B. STATISTICAL DATA				
a STATE	b OWNER	c VEGETATION	d ACRES BURNED	
---	-	-	-----	
---	-	-	-----	
---	-	-	-----	
---	-	-	-----	
---	-	-	-----	
---	-	-	-----	
---	-	-	-----	

9. AGENCY DATA							
a FIRE NAME	b AREA NAME	c LATITUDE	d LONGITUDE	e TOWNSHIP	f RANGE	g SECTION	h MERIDIAN
-----	-----	-----	-----	-----	-----	---	---
i COST CODE	j OWNERSHIP	k FY	l FISCAL DATA	m DYM	n		
---	---	---	-----	2	E	N	

10. FIRE MANAGEMENT DATA					
a DISCOVERY/START	DATE	TIME	TYPE	AMT XXXXXXXXXX XXXXXXXXXX	ACRES
b INITIAL ATTACK	---	---	1 2 3	1 2 3	---
c CONTROLLED	---	---	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	---
d DECLARED OUT	---	-----			

11. SITE DATA								
a TOPOGRAPHY	b ASPECT	c SLOPE	d ELEVATION	e STATION	f MSGC	g BEHAVIOR	h DBI	i ADL CLASS
---	---	---	---	-----	---	---	---	---

12. PREVENTION DATA			
k DAY OF WEEK	l WAS FIRE INVESTIGATED (Y/N)	m FIRE CAUSE SUSPECT KNOWN OR UNKNOWN (K/L)	n SUSPECTY = RESIDENT TRANSIENT OR UNKNOWN (RT/U)
---	---	---	---

13. PRESCRIBED FIRE DATA				
o PLOT/ BURN OBJECTIVE	p FIRING TYPE	q COST/ACRE	r FIRE'S FUEL MODEL	s PROJECT #
---	---	-----	-----	---

m COMPLEXITY / FIRE MANAGEMENT AREA	n FUEL LOADING FOR EMISSIONS			o BENEFITTING PROGRAM
	SIZE CLASS OF FUELS	PRE-BURN LOADING'S TONS PER ACRE	CONSUMPTION PERCENT	
	Shrubland	-----	-----	
	0 - 1	-----	-----	
	1.1 - 3.0	-----	-----	
	3.1 - 10.0	-----	-----	
	3+	-----	-----	
	LITTER & DUFF (INCHES)	-----	-----	

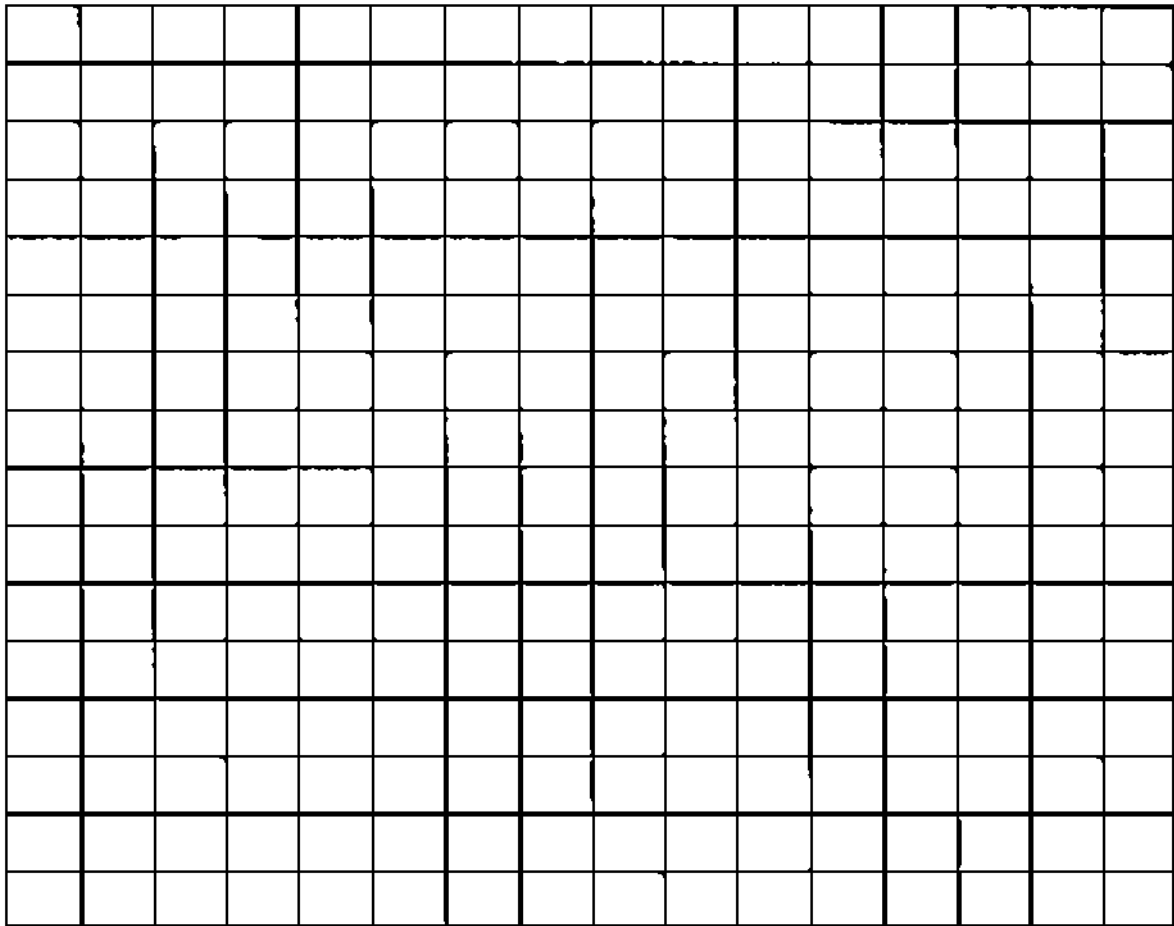
NARRATIVE - Enter information about the fire.

TITLE INFORMATION - (Mandatory)

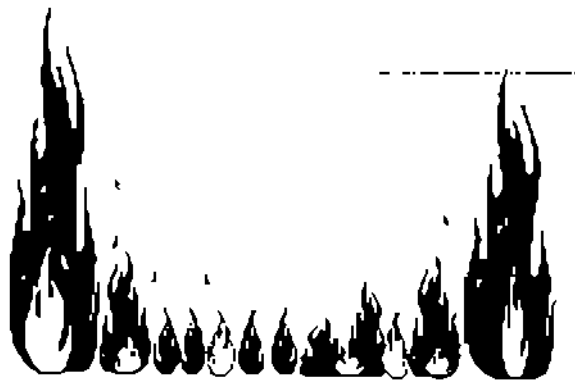
Submitted by:  
Submitted Title:  
Submitted Date:  
Entered by:  
Entered Title:  
Entered Date:

MAP - (Optional)

LOCATION PLAT SCALE: " = 1 MILE



# Individual Fire Report Instructions (DI-1202)



June 1997

**UNITED STATES DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
INDIVIDUAL FIRE REPORT INSTRUCTIONS  
FOR USE WITH DI-1202**

**GENERAL DI-1202 INSTRUCTIONS**

- 1 The fire reporting process will be done by data entry into the computer. A fire number will automatically be assigned to the fire.
- 2 Report and record each individual fire on a separate form.
3. DO NOT ENTER ZEROS to the left of significant numbers except where indicated as part of the code entry.
4. Each Fire Report is to be entered into the FMIS computer system within 20 days after the fire has been declared out.
- 5 An original hard copy needs to be kept on file because FMIS cannot capture the map and signature at this time.
- 6 A narrative for each fire will be included in the Remarks section. Other items that require clarification are also reported in this section.
- 7 DO NOT use more digits than are indicated by dashes on the form.
- 8 Enter only the code numbers, except as specified in the Specific Instructions.
- 9 Enter the MANDATORY data for the following type fires:

**FIRE TYPE 1 (SUPPRESSED FIRE)**

Item	Description	Item	Description
1	Status Code	9e	Cost Code
2-3d	Header	9f	Ownership at Origin
4a-b	Fire Type	9g	Fiscal Year
5	Cause	10a	Discovery: date/time/type/acres
6	People	10b	Initial Attack: date/time/type/amt/acres
*8aStat	c	10c	Control: date/time/acres
*8bOw	ner	11a	Topography
*8c	Vegetative Type	11b	Aspect
*8dAcre	s	11c	Slope
*8dAcre	s	11d	Elevation
9a	Fire Name	11g	Fire Behavior
9b	Area Name	* 8a-8d Repeats (up to 8 of State, Owner, Vegetative Type, Acres) as needed	
9c	Latitude/Longitude		

All other items are optional.

## FIRE TYPE 2 (NATURAL OUTS)

Item	Description	Item	Description
1	Status Code	10a	Discovery date/time/type/acres
2-3d	Header	10d	Declared Out date
4a-b	Fire Type	11a	Topography
5	Cause (if known)	11b	Aspect
*8aStat e		11c	Slope
*8bOwner		11d	Elevation
*8c Vegetative Type			
*8dAcres			
9a	Fire Name	<u>*8a-8d Repeats (up to 8 of State, Owner, Vegetative Type, Acres) as needed</u>	
9c	Latitude/Longitude		
9e	Cost Code		
9f	Ownership at Origin		
9g	Fiscal Year	All other items are optional.	

## FIRE TYPE 3 (SUPPORT ACTIONS)

Item	Description	Item	Description
1	Status Code	9a	Fire Name
2-3d	Header	9e	Cost Code
4a-b	Fire Type. (Must always be 37)	9f	Fiscal Year
8a	State	9h	Fiscal Data
8b	Owner	10a	Discovery date
All other items are optional.			

## FIRE TYPE 48 (PLANNED IGNITION)

Item	Description	Item	Description
1	Status Code	9h	Agency Fiscal Data
2-3d	Header	10a	Discovery date/time
4a-b	Fire Type	10c	Controlled acres
*8aStat e		10d	Declared Out date
*8bOwner		11a-d	Site Data
*8c Vegetative Type		11e	NFDRS Station (if available)
*8dAcres		11f	MSGC (if 11e is completed)
9a	Fire Name	11h	BI (if 11e is completed)
9b	Area Name	13c	Plot Objective
9c	Latitude/Longitude	13d	Firing Type
9f	Ownership	13e	Cost/Acre
9g	Fiscal Year		
All other items are optional.			

\*8a-8d may be repeated up to 8 times if needed

### FIRE TYPE 49 (UNPLANNED IGNITION)

Item	Description	Item	Description
1	Status Code	10a	Discovery' date/time
2-3d	Header	10c	Controlled: acres
4a-b	Fire Type	10d	Declared Out: date
*8a	State	11a-d	Site Data
*8b	Owner	11e	NFDRS Station (if available)
*8c	Vegetative Type	11f	MSGC (if 11e is completed)
*8d	Acres	11h	BI (if 11e is completed)
9a	Fire Name	13c	Plot Objective
9b	Area Name	13d	OMIT
9c	Latitude/Longitude	13e	Cost/Acre
9f	Ownership		
9g	Fiscal Year		
9h	Agency Fiscal Data	All other items are optional.	

\*8a-8d may be repeated up to 8 times if needed. Only the first set is mandatory

### FIRE TYPE 5 (ACTION TYPE FALSE ALARMS)

Item	Description	Item	Description
1	Status Code	10a	Discovery data/time/type/acres
2-3d	Header	10b	Initial Attack type/amount
4a-b	Fire Type		
8a	State		
8b	Owner		
9a	Fire Name	<b>DO NOT PREPARE A REPORT FOR A <u>NO ACTION</u> TYPE FALSE ALARM !!!</b>	
9c	Cost Code		
9g	Fiscal Year		
9h	Agency Fiscal Data		

## SPECIFIC INSTRUCTIONS

### PART I - WILDFIRES

1. REPORT STATUS CODE - (Automatic Fill)
2. REPORTING AGENCY - This refers to the Government agency submitting the report (Automatic fill)
3.
  - a. UNIT - Enter first two digits of organization code (Automatic fill).
  - b. SUB-UNIT - Enter last three digits of organization code (Automatic fill)
  - c. CALENDAR YEAR - (Automatic fill)
  - d. FIRE NUMBER - Fire number will automatically be assigned by the computer upon data entry. The entire report does not need to be entered into the computer to receive a fire number. The header (items 1 - 3c) is all that is required. The remainder of the report will need to be completed during and at the conclusion of the fire.
4. FIRE TYPE
  - a. **Fire Type** - enter one of the following codes
    - (1) For all Fires Suppressed - Action taken by the reporting agency's employees, regardless of land ownership, or by contractors, or operators on reporting agency's land.
    - (2) Natural Outs - Fires discovered after they have been extinguished by natural causes. **NO SUPPRESSION ACTION TOOK PLACE.**
    - (3) Support Actions - Action taken at the request of a cooperator on a fire which is not threatening FWS land and no formal agreement exists which would require a FWS response. **Does not include initial attack under established mutual aid agreements.** (Protection Type 7)
    - (4) Prescribed Fires - If the fire escaped and is declared a wildfire, the narrative for the prescribed fire should indicate such and reference the new assigned number for the wildfire. A new DI-1202 will be started for the newly declared wildfire. The cause and narrative should indicate that the wildfire resulted from an escaped prescribed fire
    - (5) False Alarms - For all reported fires on which some type of response was initiated (e.g., patrol plane or crew dispatched, etc.) but no suppression action took place, either because the fire was not found or it was not within reporting agency's jurisdiction

b. PROTECTION TYPE - enter one of the following codes:

- (1) For reporting agency land under reporting agency protection
- (2) For reporting agency land protected by another Federal agency under a Memorandum of Understanding or cooperative agreements
- (3) For reporting agency land protected by another non-Federal agency under a cooperative agreement or contract
- (4) This is NOT a valid code for FWS.
- (5) For Other lands not under a Memorandum of Understanding, cooperative agreement or contract but where action is taken by the reporting agency to prevent fire spread to reporting agency lands
- (6) For Other lands protected by the reporting agency under a Memorandum of Understanding, cooperative agreement or contract
- (7) Support actions by the reporting agency under Fire Type 3
- (8) Prescribed Fire - Planned Ignition
- (9) Prescribed Fire - Unplanned Ignition.

## 5. CAUSE

General Cause	Code	Valid Combinations
◆ Natural . . . . .	1	101, 131
Camp Fire . . . . .	2	208
Smoking . . . . .	3	310, 330
◆ Fire Use.....	4	411, 412, 413, 414, 415, 416, 417
Incendiary . . . . .	5	518, 519, 522
Equipment . . . . .	6	603, 604, 607, 623, 625
Railroads . . . . .	7	704, 707
◆ Juveniles. . . . .	8	819, 826, 827
Miscellaneous . . . . .	9	902, 924, 926, 930

### Specific Cause (2nd and 3rd digit of Cause column)

Lightning.....	01	
Aircraft . . . . .	02	
Burning Vehicle.. . . .	03	
◆ Exhaust .....	04	
<b>Exhaust - Other.....</b>	<b>05</b>	Equipment/Exhaust
<b>Logging Line.....</b>	<b>06</b>	Equipment/Other
◆ Brakes . . . . .	07	
◆ Cooking / Warming Fire . . . . .	08	
<b>Warming Fire.....</b>	<b>09</b>	combined with cooking
Smoking.....	10	
Trash Burning.....	11	
Burning Dump.....	12	
Field Burning.....	13	
Land Clearing . . . . .	14	
Slash Burning . . . . .	15	
Right-of-way Burning.. . . .	16	
*Resource Management Burning . . . .	17	
Grudge Fire . . . . .	18	
Pyromania.....	19	
<b>Smoking Out Bees or Game.....</b>	<b>20</b>	Fire Use/Resource Mgmt Burning
<b>Insect or Snake Control.....</b>	<b>21</b>	Fire Use/Resource Mgmt Burning
Job Hunting.....	22	
Blasting . . . . .	23	
Burning Building . . . . .	24	
Power Line . . . . .	25	
Fireworks.. . . .	26	
Playing with Matches . . . . .	27	
<b>Repelling Predators.....</b>	<b>28</b>	Fire Use/Resource Mgmt Burning
<b>House or Stove Flue Sparks.....</b>	<b>29</b>	Miscellaneous/Burning Building
Other (Unknown) . . . . .	30	
◆ Volcanic. . . . .	31	
◆ Other (Known).....	32→	(valid with all causes except smoking - 3)
◆ <b><u>* Use cause 417 for an escaped prescribed fire.</u></b>		

- 6 CLASS OF PEOPLE - Enter the most likely class code for the individuals involved in the ignition of the incident from the following:

Code	Description
0 . .	For all fires where cause is lightning or unknown.
1. . .	For all individuals who own land or businesses within protection boundaries
2. . .	For all individuals, their agents or employees, who have special use permits on reporting agency lands within protection boundaries.
3. . .	For contractors, their agents or employees for purchase of products or construction of facilities.
4 . . .	For all Federal, State, County, Municipal or other public employees
5. ...	For all permanent residents living inside or within one mile outside the protection boundary.
6. ..	For all seasonal residents or workers residing inside or within one mile outside the protection boundary.
7 . . .	For all tourists, motorists, campers, etc., in transit through the protected area

7. NET RESOURCE VALUE CHANGE PER ACRE - OMIT

8 STATISTICAL DATA

- a. STATE - Enter the 2-letter State designator
- b. OWNERSHIP - Enter from the following: One entry must be FWS (4).

Ownership	Code
BLM . . . . .	1
BIA.....	2
NPS . . . . .	3
FWS.....	4
USFS. . . . .	5
Other Federal Lands.....	6
State . . . . .	7
Private. . . . .	8
Other.....	9
Foreign . . . . .	0

c. VEGETATIVE TYPE

Type	Code
Commercial Forest Land..... 1 (Land producing or capable of producing wood products such as sawtimber, posts, poles, etc., and not withdrawn from timber use )	1
Noncommercial Forest Land .. . . . . 2 (Land not capable of yielding wood products or products of commercial forest land withdrawn from timber use.)	2
Nonforest Watershed.. . . . . 3 (Land which has never supported forests or has been developed for nonforest uses )	3

d. ACRES - Nearest tenth acre

NOTE: Repeat Items 8a. thru 8d. for each change in State, Ownership or Vegetative Type. Items 8a. thru 8d. may be repeated up to 8 times if needed.

9. AGENCY DATA

- a. FIRF NAME - Name is limited to 10 characters.
- b. AREA NAME - Enter 2-digit Congressional District (CD) Code
- c. LATITUDE/LONGITUDE - Point of Origin. Enter latitude and longitude to the nearest minute for the point of origin. Can enter seconds.
- d. LEGAL DESCRIPTION - May be used in addition to Latitude/Longitude. Enter Township, Range, Section and Meridian code. DO NOT USE DECIMALS OR FRACTIONS
- e. COST CODE - Enter from the following Estimated Suppression.

Cost Dollars	Code
0-100 . . . . .	1
101-500. . . . .	2
501-1,500.....	3
1,501-5,000 . . .	4
5,001-25,000 .. .	5
25,001-50,000. . .	6
50,001-100,00. . .	7
100,001-500,000.	8
500,001 & over . .	9

- f. OWNERSHIP - Point of Origin - (This value must also be entered in Bb).
- g. FISCAL YEAR - 4-digit automatic fill
- h. AGENCY FISCAL DATA - Enter best estimate of actual costs charged to fire number, including False Alarms (nearest dollar).
- i. UNIVERSAL TRANSVERSE MERCATOR - UTM - May be used *in addition* to Latitude/Longitude
- j. FIRE PROBLEM CLASS - Omit

#### 10. SUPPRESSION DATA

- a. DATE DISCOVERED - MMDDYYYY - Enter 8-digit number for month, day, and year (Example: October 12 = 10121997 ) Enter the leading 0 (zero) if the month or day is less than 10

TIME DISCOVERED - HHMM - Enter 4-digit number using 24-hour clock (Example: 8.13 p.m. = 2013).

DETECTION - Enter code for detection type from following

Type	Code
Agency Lookout . . . . .	A
Other Lookout. . . . .	B
Fire Patrolman . . . . .	C
Other Agency Employee.....	D
Cooperator Employee. . . . .	E
Agency Patrol Aircraft. . . . .	F
Cooperator Patrol Aircraft. . . . .	G
Other Aircraft . . . . .	H
Permittee . . . . .	I
(All persons holding a use permit or contract on agency lands.)	
Visitor. . . . .	J
Local Resident.....	K
(Permanent Residents on or adjacent to agency lands.)	
Other . . . . .	L
Smokejumper Patrol Flight. . . . .	M
AFS Aircraft Not on Patrol. . . . .	N

ACRES AT DISCOVERY - Enter to nearest tenth acre

- b. DATE OF INITIAL ATTACK - MMDDYYYY - Enter 8-digit number for month, day, and year Enter the leading 0 (zero) if the month or day is less than 10

**TIME OF INITIAL ATTACK** (defined as the time the first initial attack unit arrives at the incident) - HHMM - Enter 8-digit number using 24-hour clock.

**TYPE OF INITIAL ATTACK** - Enter code from the following list for first, second, and third units attacking fire.

Type	Code
Explosives (# of Crews).....	A
Plows or Trenchers .....	B
Light Engines (Less than 300 gal).....	C
Medium Engines (300-500 gal/50 GPM) . . .	D
Heavy Engines (500 gal+/70 GPM). . . . .	E
Handcrew (# of Individuals). . . . .	F
Smokeyumper (# of Individuals) . . . . .	G
Helitack Crew (# of Individuals) ... ..	H
Light Airtanker (600-1000 gal-Type 3). . . . .	I
Medium Airtanker (1000-2000 gal-Type 2) .....	J
Heavy Airtanker (2000 gal+-Type 1) ... ..	K
Light Helitanker (up to 300 gal-Type 3 & 4) . .	L
Medium Helitanker (300-700 gal-Type 2) . . .	M
Heavy Helitanker (700 gal+-Type 1).....	N
Light Dozer (D-4 or Equiv.) .. ..	O
Medium Dozer (D-5, D-6 or Equiv.). . . . .	P
Heavy Dozer (D-7 and Larger or Equiv.) . . .	Q
Other . . . . .	R
Monitoring Fire by Air (Not for natural out).....	S
Monitoring Fire by Ground (Not for natural out)	T
Reconnaissance Aircraft. ....	U

**AMOUNT OF INITIAL ATTACK** - Enter the number of persons or pieces of equipment. When type of initial attack is Airplane Tanker (I-K) or Helicopter Tanker (L-N) or Helicopter Tanker (L-N), amount is number of drops. Code actual amount up to 99 items. For more than 99 items code zero (0). Enter number of flights for monitoring by air. Enter number of persons x number of days for ground monitoring (5 people x 3 days = 15).

**ACRES AT INITIAL ATTACK** (defined as size of fire at time initial attack unit arrives at the incident) - Enter to the nearest tenth acre.

- c **DATE CONTROLLED** - MMDDYYYY- Enter 8-digit number for month, day, and year. Enter the leading 0 (zero) if the month or day is less than 10

**TIME CONTROLLED** - HHMM - Enter 4-digit number using 24-hour clock

**ACRES AT CONTROL** - Enter total acres within control lines to nearest tenth acre

- d **DECLARED OUT** - MMDDYYYY- Enter 8-digit number for month, day, and year. Enter the leading 0 (zero) if the month or day is less than 10

# 11 **SITE DATA**

- a. **TOPOGRAPHY** - Enter topography in vicinity of fire origin from the following:

Topographic Feature	Code
Ridgetop . . . . .	1
Saddle.....	2
Upper 1/3 of slope.....	3
Middle 1/3 of slope.....	4
Lower 1/3. . . . .	5
Canyon bottom.. . . .	6
Valley bottom . . . . .	7
Mesa or plateau. . . . .	8
Flat or rolling.....	9

- b **ASPECT** - Enter appropriate code for the vicinity of the fire origin

Aspect	Code
Flat . . . . .	0
N . . . . .	1
NE . . . . .	2
E. . . . .	3
SE . . . . .	4
S.. . . . .	5
SW. . . . .	6
W.. . . . .	7
NW.. . . . .	8
Ridgetop . . . . .	9

- c. **SLOPE** - Enter appropriate code for the vicinity of the fire origin.

Percent	Code
0-25 . . . . .	1
26-40. . . . .	2
41-55. . . . .	3
56-75.....	4
75+.. . . . .	5

- d. **ELEVATION** - Enter appropriate code for the vicinity of the fire origin.

Elevation (ft)	Code
0-500 . . . . .	0
501-1500 . . . . .	1
1501-2500 . . . . .	2
2501-3500 . . . . .	3
3501-4500 . . . . .	4
4501-5500.....	5
5501-6500.....	6
6501-7500 . . . . .	7
7501-8500 . . . . .	8
8500+ . . . . .	9

- e. **NFDRS STATION** - 6-digit NFDRS Station Number for the station describing the fire climate area in which the fire occurred, if available. Otherwise, leave blank.

- f. **FUEL MODEL** (MSGC) - (Required if "e" is completed ) 4-character (Model/Slope/Grass Type/Climate Class) NFDRS fuel model designator characterizing vicinity of origin

- g. **BEHAVIOR** - Fire behavior characterizing vicinity of origin. (See Appendix 1 for narrative of the values )

Fire Behavior	Code
Smoldering.....	1
Creeping/Spreading . . .	2
Running. . . . .	3
Running and Spotting . .	4
Torching .. . . .	5
Crowning. . . . .	6
Erratic Behavior: . . .	8

- h. **BURNING INDEX** (Required if "e" is completed ) - NFDRS BI for the station (if any) used to determine manning for initial attack on date of fire. Otherwise, leave blank.

- i. **ADJECTIVE CLASS** - Reserved for Alaska use

12 PREVENTION DATA (Optional)

◆ k DAY OF WEEK

Day of Week	Code
Sunday . . . . .	1
Monday.. . . .	2
Tuesday. . . . .	3
Wednesday . . . . .	4
Thursday . . . . .	5
Friday.. . . .	6
Saturday . . . . .	7

◆ l WAS FIRE INVESTIGATED (Y/N).

Value	Code
Yes.....	Y
No.. . . .	N

◆ m FIRE CAUSE SUSPECT: Known or Unknown (K/U)

Value	Code
Known. . . . .	K
Unknown.....	U

◆ n SUSPECT: Resident, Transient, or Unknown (R/T/U).

Value	Code
Resident. . . . .	R
Transient.. . . .	T
Unknown . . . . .	U

### 13. FUELS / EMISSIONS DATA

- c. PLOT OBJECTIVE - Enter the code from the following table that best describes the primary burn objective.

Cultural Scene Maintenance	Code
Historical Scene Maintenance, .....	01
Other Cultural Site Maintenance, .....	02

Natural Systems	Code
Exotic or Undesirable Species Control	10
Habitat Maintenance.....	11
Research.....	12

Hazard Reduction	Code
Fuel Reduction - Activity Fuels . . . .	20
Fuel Reduction - Natural Fuels. . . .	21
Real Property Protection.. . . .	22
Boundary Protection,.....	23
Fuel Break Maintenance . . . . .	24

Maintenance	Code
Debris Removal.. . . .	30
Vista Removal. . . . .	31
Health (Insect Control). . . . .	32
Right-of-Way Maintenance.. . . .	33

Silvicultural	Code
Seed Bed Preparation ... ..	40
Vegetative Type Manipulation, . . . .	41
Insect and Disease Control . . . . .	42

- d. FIRING TYPE (Planned Ignitions only) - Enter a 2-digit code from the following tables. The first digit describes the firing strategy and the second digit describes the application method.

1st position (strategy)	Code
head fire.. . . .	1
backing fire . . . .	2
spot fire . . . . .	3
concentric fire, ....	4

2nd position (method)	Code
hand ignition.....	1
aerial ignition . . .	2
remote ignition . .	3

- e. COST/ACRE - Enter the average cost per acre experienced on the burn (total cost divided by total acres)
- f. FUEL MODEL - Enter the 2-digit FBPS Fire Behavior Models that best characterize the fuels in the burn area from the following codes. The first entry should represent the majority (at least 50 percent) of the fuels in the burn. The second entry should represent any lesser fuel type that occurs in the burn area. The first fuel model is required and the second fuel model is optional.

Fuel Model	Code
<b>Herb and Herb-Dominated</b>	
Short Grass (1 foot) . . . . .	01
Timber (Grass and Understory). . . . .	02
Tall Grass (2.5 feet)... ..	03
<b>Chaparral and Shrub Fields</b>	
Chaparral (6 feet) . . . . .	04
Brush (2 feet) . . . . .	05
Dormant Brush, Hardwood Slash.....	06
Southern Rough ... ..	07
<b>Timber Litter</b>	
Closed Timber Litter.....	08
Hardwood Litter.....	09
Timber (Litter and Understory) . . . . .	10
<b>Slash</b>	
Light Logging Slash. . . . .	11
Medium Logging Slash . . . . .	12
Heavy Logging Slash.. . . .	13

l. OMIT

m. OMIT

n. FUEL LOADING FOR EMISSIONS (see Table 1)

o. OMIT

NARRATIVE (optional) - Enter information about the fire.

TITLE INFORMATION (mandatory)

Submitted By:  
Submitted Title:  
Submitted Date:  
Entered By:  
Entered Title:  
Entered Date:

MAP (optional) - Plot the perimeter of the fire on a hard copy.

## APPENDIX 1

### Narrative Descriptions of Fire Behavior

1. **Smoldering** - A fire burning slowly through direct oxidation, in leaf mold, duff, peat, etc., in which there is little or no visible flame and little or no visible smoke, but some spread and definite heat output
2. **Creeping/Spreading** - A fire burning in fuel, such as leaf mold, litter, or light grass, with both visible flame and smoke.
3. **Running** - A fire with significant output of heat such that direct attack might be impossible. Flame length could be expected to be in excess of 5 feet
4. **Running and Spotting** - Fire behavior similar to "Running", but burning embers and firebrands are aloft and new ignitions started.
5. **Torching** - A fire in which the crowns or canopies of individual or groups of trees ignite; however, the fire does not continue into the canopy of surrounding vegetation
6. **Crowning** - The fire tends to move through the overstory or canopy, generally keeping pace with or perhaps even preceding the surface fire
7. **Crowning and Spotting** - The same as "Crowning", with firebrands carried aloft and starting fires some distance ahead
8. **Erratic Behavior** - Involves fire whirls, fire storms, blowup conditions, or other fire behavior in which the fire's rate and direction of spread is largely unpredictable

(TABLE 1) **MAX AND MIN FUEL LOADINGS BY SIZE CLASS FOR FBPS FUEL MODELS**  
**DI-1202 FIELD 13n**

FBPS FUEL MODEL	Load Range	Shrub + Herb T/A	0 1" T/A	1 1'-3" T/A	3 1'-9" T/A	9'+ T/A	Litter + Duff Inches
1 SHORT GRASS (1 foot)	MIN MAX	0.1 2.0	0 1.5	0 0	0 0	0 0	0 4.0
2 TIMBER (Grass & Understory)	MIN MAX	0.1 1.5	0 2.0	0 2.5	0 2.3	0 7.8	0 4.0
3 TALL GRASS (2.5 feet)	MIN MAX	0.1 10.0	0 2.0	0 1.0	0 1.0	0 1.0	0 4.0
4 CHALKARRAL (6 feet)	MIN MAX	1.1 21.0	0 2.0	0 1.0	0 1.0	0 1.0	0 4.0
5 BRUSH (7 feet)	MIN MAX	1.1 11.0	0 2.0	0 1.0	0 1.0	0 1.0	0 4.0
6 DORMANT BRUSH - HARDWOOD SLASH	MIN MAX	1.1 11.0	0 2.0	0 1.0	0 1.0	0 1.0	0 4.0
7 SOUTHERN ROUGH	MIN MAX	0.2 1.5	0.2 4.0	0 2.0	0 2.0	0 2.0	0 4.0
8 CLOSED TIMBER + LITTER	MIN MAX	0 1.0	0.1 4.0	0 3.0	0 12.0	0 2.0	0 4.0
9 HARDWOOD LITTER	MIN MAX	0 2.0	0.1 3.5	0 5	0 10.0	0 10.0	0 4.0
10 TIMBER (Litter + Understory)	MIN MAX	0.5 1.0	2.0 5.0	0.1 5.0	1.0 15.0	1.0 22.0	0 4.0
11 LIGHT LOGGING SLASH	MIN MAX	0 2.0	2.0 7.0	1.0 6.0	1.0 15.0	1.0 50.0	0 4.0
12 MEDIUM LOGGING SLASH	MIN MAX	0 3.0	7.0 10.0	1.0 16.0	1.0 20.0	1.0 100.0	0 4.0
13 HEAVY LOGGING SLASH	MIN MAX	0 3.0	2.0 29.0	1.0 28.0	1.0 40.0	1.0 200.0	0 4.0

REF: Aids to Determining Fuel Models for Estimating Fire Behavior

Intermountain Forest and Range Experiment Station  
 GTR INT-122 NFES #1574

# **M.I.S.T.**

## **Minimum Impact Suppression Tactics**

MIST tactics are a "light hand on the land" approach emphasizing suppression techniques followed by rehabilitation options that have the least impact on the environment and reduce adverse impacts to natural, archeological and historical resources

### **Suppression**

Depending upon the burning conditions and what kind of vegetation, the firefighters have many options on how to fight the fire.

- MIST tactics discourage hand scratched fireline and emphasizes the use of water and dirt in line construction and trying to tie natural geographic features together to create fireline, i.e. a stream, a rock outcropping, a road or a rocky ridge
- Firefighters using MIST try to
  - Reduce the amount of trees that are cut
  - Dig fireline around large logs
  - Use cold trailing techniques (feeling with the back of their hand to sense cold line That doesn't need to be cut)
  - Allowing standing dead trees to remain if they are not a safety hazard

### **Mop Up**

- Firefighters do minimal spading and scraping
  - Try to roll logs out of the way instead of stacking them or cutting them
  - Try to leave as many standing burned trees as possible
- Fire conditions and good judgment dictate the actions taken

### **Rehabilitation**

- Waterbars are being put in to channel excess water away from the line
- Dug-out soil and/or duff is being replaced
- Where trees needed to be cut to help stop the fire, the stumps are being camouflaged with soil or duff or on very large stumps they are chopped with an axe to make it look jagged and rough
- Helispots within the wilderness are being rehabilitated to bring them back to as near pristine as they were before the fire
- Where soil has been exposed and compacted, crews are raking the top two inches and then scattering needle, twigs, rocks and dead branches.
- Where trees were cut, stumps are being blasted to attempt to have the area appear to be in a near natural state
- Limbs, sawdust and shavings are scattered, returning the area to a natural undisturbed condition
- Special attention is being paid to rehabilitate fireline-trail junctions to discourage the use of constructed lines as trails

- Firelines are being covered with brush limbs and small diameter logs in a natural appearing arrangement
- All flagging, trash and equipment is being picked up and disposed of properly
- Any protective structure wrap is being removed and any archeological structures or objects that were moved are being placed back in their original location
- Finally the incident command post, helibase, water draft sites and roads that were used for fire fighting are being repaired, restored and rehabilitated